ကုမ္ပဏီအမည်- ZKG Asia Limited
လုပ်ငန်း- CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း

စဉ်	အကြောင်းအရာ	ဆောင်ရွက်သည့် နေ့စွဲ	ပြန်ကြားချက် ရရှိသည့် နေ့စွဲ	မှတ်ချက်
၁	အဆိုပြုလွှာလက်ခံရရှိခြင်း	၂၅-၄-၂၀၁၄		
၂	**သဘောထားမှတ်ချက်တောင်းခံခြင်း**			
	(က) စီမံကိန်းစိစစ်ရေးနှင့် တိုးတက်မှု အစီရင်ခံ ရေးဦးစီးဌာန	၃၀-၄-၂၀၁၄	၂-၅-၂၀၁၄	
	(ခ) ရန်ကုန်တိုင်းဒေသကြီးအစိုးရအဖွဲ့	၂၉-၄-၂၀၁၄	၃-၆-၂၀၁၄	
	(ဂ) ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးနှင့် သစ်တော ရေးရာဝန်ကြီးဌာန	၂၉-၄-၂၀၁၄	၁၄-၅-၂၀၁၄	
	(ဃ) စက်မှုဝန်ကြီးဌာန	၂၉-၄-၂၀၁၄	၁၉-၅-၂၀၁၄	
	(င) CMP လုပ်ငန်းများကြီးကြပ်ရေးကော်မတီ	၂၉-၄-၂၀၁၄	၁၉-၅-၂၀၁၄	
၃	အဆိုပြုချက်စိစစ်ရေးအဖွဲ့အစည်းအဝေး (၁၈/၂၀၁၄) သို့ တင်ပြခြင်း	၂-၅-၂၀၁၄		
၄	အဆိုပြုလွှာ လက်ခံကြောင်းစာ ပေးပို့ခြင်း	၉-၅-၂၀၁၄		
၅	**မြေအသုံးပြုခွင့်တင်ပြခြင်း**			
	(က) ကော်မရှင်အစည်းအဝေး (၁၄/၂၀၁၄) သို့ တင်ပြခြင်း		၁၄-၅-၂၀၁၄	
	(ခ) စီးပွားရေးရာကော်မတီအစည်းအဝေး (၁၇/၂၀၁၄)သို့ တင်ပြခြင်း		၂၈-၅-၂၀၁၄	
	(ဂ) ပြည်ထောင်စုအစိုးရအဖွဲ့ (၁၁/၂၀၁၄) အစည်းအဝေးသို့တင်ပြခြင်း		၄-၆-၂၀၁၄	
၆	ကုမ္ပဏီသို့ လိုအပ်ချက်များပြင်ဆင်ရန် အကြောင်းကြားခြင်း	၂၇-၅-၂၀၁၄		
၇	ကုမ္ပဏီမှ လိုအပ်ချက်များ ပြင်ဆင်တင်ပြခြင်း		၅-၆-၂၀၁၄	
၈	ကုမ္ပဏီ၏ ပြင်ဆင်ချက်များအား စက်မှု ဝန်ကြီး ဌာနနှင့် CMP လုပ်ငန်းများ ကြီးကြပ်ရေး ကော်မတီတို့မှ ပြန်လည်ပေးပို့ခြင်း		၁၀-၆-၂၀၁၄	
၉	ကုမ္ပဏီမှ တွက်ချက်မှုများ ပြန်လည်ပြင်ဆင် ခြင်း		၂၀-၇-၂၀၁၄	
၁၀	**ကုမ္ပဏီမှအဆိုပြုလွှာ အစုံ(၁၅)ပေးပို့ခြင်း**			
၁၀	**စုစုပေါင်းကြာမြင့်ရက် (၇၃) ရက်**			

ကုမ္ပဏီအမည်	-	ZKG Asia Ltd.
အဖွဲ့အစည်းပုံသဏ္ဍာန်	-	ရာခိုင်နှုန်းပြည့်နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု
လုပ်ငန်းအမျိုးအစား	-	CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း
တည်နေရာ	-	အမှတ် ၅၀၊ ရွှေမြို့တော်စေတီလမ်း၊ ရန်ကုန်စက်မှုဇုန်၊ မင်္ဂလာဒုံဥယျာဉ်မြို့တော်၊ ရန်ကုန်တိုင်းဒေသကြီး
စုစုပေါင်းရင်းနှီးမြှုပ်နှံမှု	-	အမေရိကန်ဒေါ်လာ ၁.၈၂၆၄ သန်း
ရောင်းချမည့်စနစ်	-	ပြည်ပသို့ ၁၀၀ % တင်ပို့ရောင်းချခြင်း
လုပ်ငန်းသက်တမ်း	-	ကနဦး ၁၂ နှစ်
အရင်းကြေကာလ	-	၄ နှစ် ၅ လ
IRR	-	၁၈.၇၀ %

အထက်ပါလုပ်ငန်းဆောင်ရွက်ခြင်းဖြင့် နိုင်ငံတော်၏ Cost & Benefit ကို အောက်ပါဇယားဖြင့် ပြုစု တင်ပြအပ်ပါသည်-

စဉ်	အကြောင်းအရာ	Cost	Benefit
၁	နိုင်ငံ့ဝန်ထမ်း၏လစာ	ကျပ် ၁.၅၄၈ သန်း (တစ်နှစ်)	
၂	ကုမ္ပဏီမှတ်ပုံတင်ကြေး	-	ကျပ် ၁.၁၆၅ သန်း
၃	သွင်းကုန်အခွန်ကင်းလွတ်ခွင့်	ကျပ် ၅၁.၇၈ သန်း	
၄	ကုန်သွယ်လုပ်ငန်းခွန်	-	-
၅	ဝင်ငွေခွန်	ကျပ် ၅၉၈.၅ သန်း	ကျပ် ၇၁၈.၂ သန်း
၆	ရေ၊ လျှပ်စစ်မီးသုံးစွဲခ		ကျပ် ၂၉၉.၂၅ သန်း
၇	လုပ်ခလစာအပေါ်ဝင်ငွေခွန်		တစ်နှစ် ဝင်ငွေ ကျပ် သိန်း (၂၀) ကျော်ပါက အခွန်ပေးရမည့် ဝန်ထမ်း (၁၁) ဦး
၈	CSR		ကျပ် ၂၅၀.၈ သန်း
၉	မြေငှားရမ်းခရငွေ		ကျပ် ၂၂၃၂ သန်း
၁၀	အလုပ်အကိုင်အခွင့်အလမ်း		ပြည်တွင်း ၁,၃၂၉ ဦး ပြည်ပ ၉ ဦး ပြည်တွင်းလုပ်သား (၁,၃၂၉) ဦး အလုပ်အကိုင် ရရှိမည် ဖြစ်၍ ဒေသ အလုပ်အကိုင် အခွင့်အလမ်းနှင့် ဒေသစီးပွားရေးဖွံ့ ဖြိုးတိုးတက်မှုကို အထောက်အကူပြုစေပါသည်။ အလုပ်အကိုင်အခွင့်အလမ်းများ ပိုမို ရရှိစေပြီး ဆင်းရဲနွမ်းပါးမှုလျော့ချရေးကို အထောက်အကူပြုစေနိုင်ပါသည်။
		ကျပ် ၆၅၁.၈၃ သန်း	**ကျပ် ၃,၅၀၁.၄၂ သန်း**
		၁ း ၅	

ကန့်သတ်

အကြောင်းအရာ။ **ရခိုင်နှုန်းပြည့် နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှုဖြင့် ZKG Asia Limited တည်ထောင်၍ CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း ဆောင်ရွက် ခွင့် ပြုပါရန် တင်ပြလာခြင်း ကိစ္စ**

၁။	ကုမ္ပဏီအမည်/ ကမကထပြုသူ	- ZKG Asia Limited - Mr. Lee Kwok Sun, Thomas(တရုတ်နိုင်ငံသား)
	အဖွဲ့အစည်းပုံသဏ္ဌာန်	- ရခိုင်နှုန်းပြည့်နိုင်ငံခြား ရင်းနှီးမြှုပ်နှံမှု - Top Crown Industries Limited (ဟောင်ကောင်) ၅၀ % - Chater Limited (ဟောင်ကောင်) ၅၀ %
	လုပ်ငန်းအမျိုးအစား	- CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း
၂။	တည်နေရာ	- အမှတ် (၅၀)၊ ရွှေမြို့တော်စေတီလမ်း၊ ရန်ကုန်စက်မှုဇုန်၊ မင်္ဂလာဒုံဥယျာဉ်မြို့တော်၊ ရန်ကုန်တိုင်းဒေသကြီး
	မြေအကျယ်အဝန်း	- မြေ ၈၀၉၃.၇၂ စတုရန်းမီတာ (၂.၀၁၈ဧက)
	မြေပိုင်ရှင်	- ဦးစိုးစိုးသန်း(ခ)ဦးစိုးစိုး
၃။	နှစ်စဉ်မြေ နှင့် အဆောက်အဦငှားရမ်းခ	- နှစ်စဉ်မြေနှင့်အဆောက်အဦငှားရမ်းခမှာ ကျပ် (၃၇၂,၀၀၀,၀၀၀) ဖြစ်ပါသည်။ - မြေတစ်စတုရန်းမီတာလျှင်(၁)နှစ် ကျပ်(၄၅၉၆၀.၅၆)နှုန်း ဖြစ်ပါသည်။
၄။	မြေငှားသက်တမ်း	- ကနဦး ၁၂ နှစ်နှင့် နှစ်ဦးသဘောတူညီချက် အရ၁၀ နှစ် (၁)ကြိမ် နှင့် ၈ နှစ် (၁)ကြိမ်သက်တမ်းတိုး
	လုပ်ငန်းသက်တမ်း	- နှစ် ၅၀
	တည်ဆောက်ရေးကာလ	- ၆ လ
၅။	စုစုပေါင်းရင်းနှီးမြှုပ်နှံမှု	- အမေရိကန်ဒေါ်လာ ၁.၈၂၆၄ သန်း
	ထည့်ဝင်သည့် အမျိုးအစား	- US$ (သန်း)
	ငွေသား(ပြည်ပ)	၀.၇၃၆၂
	စက်နှင့်စက်ပစ္စည်း (ပြည်ပ)	၁.၀၉၀၂
	စုစုပေါင်း	၁.၈၂၆၄
၆။	ဝန်ထမ်းအင်အား (ပထမနှစ်)	- **၁၃၃၈ ဦး**
	ပြည်တွင်း	- ၁၃၂၉ ဦး (ပြည်တွင်းဝန်ထမ်း တစ်ဦး၏ အနိမ့်ဆုံး လစာမှာ US$ ၉၀၊ အမြင့်ဆုံးလစာမှာ US$ ၅၀၀)
	ပြည်ပ	- ၉ ဦး (ပြည်ပဝန်ထမ်း တစ်ဦး၏ အနိမ့်ဆုံး လစာမှာ US$ ၆၅၀ ၊ အမြင့်ဆုံးလစာမှာ US$ ၁,၀၀၀)
၇။	ရောင်းချမည့်စနစ်	- ၁၀၀ % ပြည်ပသို့ တင်ပို့ခြင်း
၈။	ကုမ္ပဏီ၏ ဝင်ငွေ (ဆဌမနှစ်)	- US$ ၄.၃၉၅၃ သန်း
	ကုမ္ပဏီ၏ အသုံးစရိတ် (ဆဌမနှစ်)	- US$ ၄.၀၂၈၁ သန်း
	ကုမ္ပဏီ၏ အသားတင်အမြတ် (ဆဌမနှစ်)	- US$ ၀.၃၆၇၂သန်း -

ကန့်သတ်

၉။	နိုင်ငံတော်မှရရှိမည့်အကျိုးအမြတ် (ဆဌမနှစ်) ဝင်ငွေခွန်	- US$ ၀.၁၂၆၀ သန်း
	အရင်းကြေကာလ	- ၄ နှစ် ၅ လ
	အရင်းအနှီးအပေါ်အကျိုးအမြတ်ပြန်ပေါ်နှုန်း (IRR)	- ၁၈.၇၀ %
၁၀။	လျှပ်စစ်ဓါတ်အားသုံးစွဲမှု(၁နှစ်)	- ၁,၀၀၀,၀၀၀ kWh
၁၁။	ပြည်ပမှအခွန်အကောက်ကင်းလွတ်ခွင့်တောင်းခံခြင်း	
	(က) စက်ပစ္စည်း	- US$ ၁.၀၉၀၂ သန်းတန်ဖိုးရှိ စက်ပစ္စည်းများကို **ပူးတွဲ-၁** ဖြင့် တင်ပြထားပါသည်။
	(ခ) ကုန်ကြမ်းပစ္စည်း	- **ပူးတွဲ-၂** ဖြင့်တင်ပြထားပါသည်။
၁၂။	CSR	- ပတ်ဝန်းကျင်နှင့် လူမှုရေးဆိုင်ရာ စောင့်ကြည့်လေ့လာမည့် လုပ်ငန်းများအတွက် ကျန်းမာရေး၊ လူမှုရေး၊ သက်သာချောင်ချိရေး ကိစ္စရပ်များတွင် သုံးစွဲနိုင်ရန် အသားတင်အမြတ်ငွေမှ ၁ % ကို ရန်ပုံငွေအဖြစ် လျာထားပါကြောင်း တင်ပြထားပါသည်။
၁၃။	မီးဘေးကြိုတင်ကာကွယ်ရေးစီမံချက်	- မီးဘေး ကြိုတင်ကာကွယ်ရေးအတွက် ရေဂါလံ ၃,၀၀၀ ဆန့် ရေလှောင်ကန် ၂ ကန်ကို တည်ဆောက်ထားရှိမည် ဖြစ်ပါကြောင်း၊ စက်ရုံအဆောက်အဦမှာလည်း မီးလောင်မှုမှ ကာကွယ်ရန်ရေပုံး၊ မီးချိတ်၊ မီးကပ်၊ သဲအိတ်၊ မီးသတ်ဆေးဘူးများကို အဆင်သင့် ထားရှိမည်ဖြစ်ပါကြောင်း၊ စက်ရုံနံရံတွင်လည်း မီးသတ်ဘူးများ ချိတ်ဆွဲထားရှိမည် ဖြစ်ပါကြောင်း၊ စက်ရုံအတွင်းတွင် မီး ဘေးအန္တရာယ်အတွက် စည်းကမ်းချက်များ ချမှတ်ထားပြီး ဝန်ထမ်းများ တိကျစွာ လိုက်နာဆောင်ရွက်ရန်လည်း စီမံထား ပါ ကြောင်း၊ ဝန်ထမ်းများကိုလည်း မီးဘေးအရေး ပေါ်ကာကွယ်ရန် မီးသတ်နည်းပညာများ လေ့ကျင့်သင်ကြားပေးမည် ဖြစ်ပါကြောင်း၊ စက်ရုံအတွင်းနှင့် အနီးပတ်ဝန်းကျင်တွင် ဆေးလိပ် သောက်ခြင်းကို တင်းကြပ်စွာ တားမြစ်ထားခြင်း၊ လျှပ်စစ်နှင့် ပတ်သက်သည့် အန္တရာယ်များ မဖြစ်ပေါ်အောင်လည်း ဆောင်ရွက်ထားရှိမည် ဖြစ်ပါကြောင်း တင်ပြထားပါသည်။

MIC

Form (2)

Republic of the Union of Myanmar
Sr.No. 127-d
Date 23-8-2014
Myanmar Investment Commission

THE REPUBLIC OF THE UNION OF MYANMAR

The Myanmar Investment Commission

PERMIT

Permit No. 974/2014 Date 23rd August 2014

This Permit is issued by the Myanmar Investment Commission according to the section 13, sub-section (b) of the Republic of the Union of Myanmar Foreign Investment Law-

(a) Name of Investor/Promoter MR. LEE KWOK SUN, THOMAS

(b) Citizenship CHINESE

(c) Address RM-3708, ASIA TRADE CENTRE, 79 LEI MUK ROAD, KWAI CHUNG, NT, HONG KONG

(d) Name and Address of principal organization -

(e) Place of incorporation -

(f) Type of investment business MANUFACTURING OF GARMENTS ON CMP BASIS

(g) Place(s) at which investment is permitted PLOT NO. 50, SHWE MYODAW ZAYDI ROAD, YANGON INDUSTRY ZONE ,MINGALARDON GARDEN CITY, YANGON REGION

(h) Amount of foreign capital US$ 1.8264 MILLION

(I) Period for foreign capital brought in WITHIN THREE YEARS FROM THE DATE OF ISSUANCE OF MIC PERMIT

(j) Total amount of capital (Kyat) EQUIVALENT IN KYAT OF US$ 1.8264 MILLION

(k) Construction period 6 MONTHS

(l) Validity of investment permit 30 YEARS

(m) Form of investment WHOLLY FOREIGN OWNED INVESTMENT

(n) Name of company incorporated in Myanmar ZKG ASIA LTD.

Chairman

The Myanmar Investment Commission

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
မြန်မာနိုင်ငံ ရင်းနှီးမြှုပ်နှံမှု ကော်မရှင်
ခွင့်ပြုမိန့်

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
စာအမှတ် ၁၂၅-ဃ
ရက်စွဲ ၂၃-၈-၂၀၁၄
မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်

ခွင့်ပြုမိန့်အမှတ် ၇၉၄ / ၂၀၁၄ ၂၀၁၄ ခုနှစ် ဩဂုတ်လ ၂၃ ရက်

ပြည်ထောင်စုသမ္မတ မြန်မာနိုင်ငံတော်နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု ဥပဒေပုဒ်မ-၁၃၊ ပုဒ်မခွဲ(ခ) အရ ဤခွင့်ပြုမိန့်ကို မြန်မာနိုင်ငံ ရင်းနှီးမြှုပ်နှံမှု ကော်မရှင်က ထုတ်ပေးလိုက်သည် -

(က) ကမကထပြုသူ၏အမည် MR. LEE KWOK SUN, THOMAS

(ခ) နိုင်ငံသား CHINESE

(ဂ) နေရပ်လိပ်စာ RM-3708, ASIA TRADE CENTRE, 79 LEI MUK ROAD, KWAI CHUNG, NT, HONG KONG

(ဃ) ပင်မအဖွဲ့အစည်းအမည်နှင့် လိပ်စာ –

(င) ဖွဲ့စည်းရာအရပ် –

(စ) ရင်းနှီးမြှုပ်နှံသည့်လုပ်ငန်းအမျိုးအစား CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်း လုပ်ငန်း

(ဆ) ရင်းနှီးမြှုပ်နှံသည့်အရပ်ဒေသ(များ) မြေကွက်အမှတ်(၅၀)၊ ရွှေမြို့တော်စေတီလမ်း၊ ရန်ကုန်စက်မှုဇုန်၊ မင်္ဂလာဒုံဥယျာဉ်မြို့တော်၊ ရန်ကုန်တိုင်းဒေသကြီး

(ဇ) နိုင်ငံခြားမတည်ငွေရင်း ပမာဏ အမေရိကန်ဒေါ်လာ ၁.၈၂၆၄ သန်း

(ဈ) နိုင်ငံခြားမတည်ငွေရင်းယူဆောင်လာရမည့်ကာလ ခွင့်ပြုမိန့်ရရှိသည့်နေ့မှ (၃) နှစ်အတွင်း

(ည) စုစုပေါင်း မတည်ငွေရင်းပမာဏ(ကျပ်) အမေရိကန်ဒေါ်လာ ၁.၈၂၆၄ သန်း နှင့် ညီမျှသော မြန်မာကျပ်ငွေ

(ဋ) တည်ဆောက်မှုကာလ ၆ လ

(ဌ) ရင်းနှီးမြှုပ်နှံခွင့်ပြုသည့် သက်တမ်း ၃၀ နှစ်

(ဍ) ရင်းနှီးမြှုပ်နှံမှုပုံစံ ရာခိုင်နှုန်းပြည့်နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု

(ဎ) မြန်မာနိုင်ငံတွင် ဖွဲ့စည်းမည့် ကုမ္ပဏီအမည် ZKG ASIA LTD.

ဥက္ကဋ္ဌ
မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်

THE REPUBLIC OF THE UNION OF MYANMAR
MYANMAR INVESTMENT COMMISSION
No.(1), Thitsar Road, Yankin Township, Yangon

Our ref : DICA-3/FI-1017/2014(127-d) Tel: 01-658128

Date : 23rd August 2014 Fax: 01-658136

Subject: Decision of the Myanmar Investment Commission on the Proposal for "Manufacturing of Garments on CMP Basis" under the name of "ZKG Asia Ltd."

Reference: ZKG Asia Ltd. Letter dated (25-4-2014).

1. The Myanmar Investment Commission, at its meeting (20/2014) held on (1-8-2014) had approved that the proposal for investment in "Manufacturing of Garments on CMP Basis" under the name of "ZKG Asia Ltd." submitted by Top Crown Industries (50 %) and Chater Limiter (50 %) from Hong Kong as a wholly foreign owned investment.

2. Hence, the "Permit" is herewith issued in accordance with Chapter VII, section 13(b) of the Foreign Investment Law and Chapter VIII, Rule 49 of the Foreign Investment Rules relating to the Foreign Investment Law. Terms and conditions to the "Permit" are stated in the following paragraphs.

3. The permitted duration of the project shall be 50 (fifty) years period.

4. The Lease term for the land and building lease agreement between U Soe Soe @ U Soe Soe Than and ZKG Asia Ltd. shall be 12 (Twelve) years extendable to 10 (ten) years extension to be done and another 8 (eight) years upon mutual agreement by the lessor and the lessee. The annual rent for the land and building shall be Kyats 372,000,000 (Kyats three hundred and seventy-two million only) calculated at the rate of kyats 45961.56 per square meter per year of the land measuring 8093.72 square meter (2.01 acres).

5. In issuing this "Permit," the Commission has granted, the followings exemptions and reliefs as per Chapter XII, section 27 (a), (h), (i) and (k) of the Foreign Investment Law. Other exemptions and reliefs under section 27 shall have to be applied upon the actual performance of the project;

(a) As per section 27(a), income tax exemption for a period of five consecutive years including the year of commencement on commercial production;

(b) As per section 27(h), exemption or relief from customs duty or other internal taxes or both on machinery, equipment, instruments, machinery components, spare parts and materials used in the business, which are imported as they are actually required for use during the period of construction of business;

(c) As per section 27(i), exemption or relief from customs duty or other internal taxes or both on raw materials imported for production for the first three-year after the completion of construction of business;

(d) As per section 27(k), exemption or relief from commercial tax on the goods produced for export.

6. ZKG Asia Ltd. shall have to sign the Land and Building Lease Agreement with U Soe Soe @ U Soe SoeThan . After signing the Agreement, (5) copies shall have to be forwarded to the Commission.

7. ZKG Asia Ltd. in consultation with the Department of Company Registration, Directorate of Investment and Company Administration shall have to be registered. After registration, (5) copies each of Certificate of Incorporation and Memorandum of Association and Articles of Association shall have to be forwarded to the Commission.

8. ZKG Asia Ltd. shall use its best efforts for timely realization of works stated in the Proposal. If none of such works has been commenced within one year from the date of issue of this "Permit" it shall become null and void.

9. ZKG Asia Ltd. has to abide by Chapter X, Rule 58 and 59 of the Foreign Investment Rules for construction period.

10. As per Chapter X, Rule 61 of the Foreign Investment Rules extension of construction period shall not be allowed more than twice except it is due to unavoidable events such as natural disasters, instabilities, riots, strikes, emergency of State condition, insurgency and outbreak of wars.

11. As per Chapter X, Rule 63 of the Foreign Investment Rules, if ZKG Asia Ltd. cannot construct completely in time during the construction period or extension period, the Commission will have to withdraw the permit issued to the investor and there is no refund for the expenses of the project.

12. The commercial date of operation shall be reported to the Commission.

13. ZKG Asia Ltd. shall endeavour to meet the targets for production and export stated in the proposal as the minimum target.

14. The Commission approves periodical appointments of foreign experts and technicians from abroad as per proposal in accordance with Chapter XI, section 24 and section 25 of the Foreign Investment Law and the investor has to follow the existing Labour Laws for the recruitment of staff and labour in accordance with Chapter XIII, Rule 84 of the Foreign Investment Rules.

15. In order to evaluate foreign capital and for the purpose of its registration in accordance with the provisions under Chapter XV, section 37 of the Foreign Investment Law, it is compulsory to report as early as possible in the following manner:-

(a) the amount of foreign currency brought into Myanmar, attached with the necessary documents issued by the respective bank where the account is opened and defined under Chapter XVI, Rule 134 and 135 of the Foreign Investment Rules;

(b) the detailed lists of the type and value of foreign capital defined under Chapter I, section 2 (i) of the Foreign Investment Law, other than foreign currency.

16. ZKG Asia Ltd. brings in foreign capital defined under Chapter I, section 2 (i) of the Foreign Investment Law, other than foreign currency in the manner stated in paragraph 15(b) mentioned above, the Inspection Certificate endorsed and issued by an internationally recognized Inspection Firm with regard to quantity, quality and price of imported materials shall have to be attached.

17. ZKG Asia Ltd. has the right to make account transfer and expend the foreign currency from his bank account in accordance with Chapter XVI, Rule 136 and for transfer of local currency generated from the business to the local currency account opened at the bank by a citizen or a citizen-owned business in the State and right to transfer back the equivalent amount of foreign currency from the foreign currency bank account of citizen or citizen-owned business by submitting the sufficient document in accordance with Chapter XVII, Rule 145 of the Foreign Investment Rules.

18. ZKG Asia Ltd. shall report to the Commission for any alteration in the physical and financial plan of the project. Cost over run, over and above the

investment amount pledged in both local and foreign currency shall have to be reported as early as possible.

19. ZKG Asia Ltd. shall be responsible for the preservation of the environment at and around the area of the project site. In addition to this, it shall carry out as per instructions made by Ministry of Environmental Conservation and Forestry in which to conduct an Environmental Management Plan (EMP) which describe the measure to be taken for preventing, mitigation and monitoring significant environmental impacts resulting from the implementation and operation of proposed project or business or activity has to be prepared and submitted and to perform activities in accordance with this EMP and to abide by the environmental policy, Environmental Conservation Law and other environmental related rules and procedures.

20. ZKG Asia Ltd. shall contribute 1 % of the annual net profit for Corporate Social Responsibility (CSR) activities in Myanmar.

21. After getting permit from Myanmar Investment Commission, ZKG Asia Ltd. shall have to be registered at the Directorate of Industrial Supervision and Inspection.

22. ZKG Asia Ltd. shall have to abide by the Fire Services Department's rules, regulations, directives and instructions. Moreover, fire prevention measures shall have to undertake such as water storage tank, fire extinguishers and provide training to use the fire fighting equipment and to appoint fire safety officer.

23. Payment of principal and interest of the loan (if any) as well as payment for import of raw materials and spare parts etc., shall be made from export earning (CMP charges) of ZKG Asia Ltd. Commercial tax shall be levied on sales of reject items.

24. ZKG Asia Ltd. in consultation with Myanma Insurance, shall effect such types of insurance defined under Chapter XII, Rule 79 and 80 of the Foreign Investment Rules.

(Zay Yar Aung)
Chairman

ZKG Asia Ltd.

cc:
1. Office of the Union Government of the Republic of the Union of Myanmar
2. Office of the Bago Region Government
3. Ministry of National Planning and Economic Development
4. Ministry of Finance
5. Ministry of Commerce
6. Ministry of Industry
7. Ministry of Foreign Affairs
8. Ministry of Home Affairs
9. Ministry of Immigration and Population
10. Ministry of Labour, Employment and Social Security
11. Ministry of Environmental Conservation and Forestry
12. Ministry of Electric Power
13. Chairman, CMP Enterprise Supervision Committee
14. Director General, Directorate of Investment and Company Administration
15. Director General, Directorate of Human Settlement and Housing Development
16. Director General, Directorate of Industrial Supervision and Inspection
17. Director General, Customs Department
18. Director General, Internal Revenue Department
19. Managing Director, Myanma Foreign Trade Bank
20. Managing Director, Myanma Investment and Commercial Bank
21. Managing Director, Myanma Insurance
22. Managing Director, Myanma Electric Power Enterprise
23. Director General, Directorate of Trade
24. Director General, Immigration and National Registration Department
25. Director General, Directorate of Labour
26. Director General, Department of Environmental Conservation
27. Director General, Fire Services Department
28. Chairman, Republic of the Union of Myanmar Federation of Chambers of Commerce and Industry (UMFCCI)
29. Chairman, Myanma Economic Holdings Limited

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်

စာအမှတ်၊ ရက- ၃/၁၀၁၇ / ၂၀၁၄(၂၂)
ရက်စွဲ၊ ၂၀၁၄ ခုနှစ် ဇူလိုင် လ ၂၉ ရက်

မြန်မာနိုင်ငံ ရင်းနှီးမြှုပ်နှံမှု ကော်မရှင်သို့
တင်ပြမည့် အမှာစာ

အကြောင်းအရာ။ **ရာခိုင်နှုန်းပြည့် နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှုဖြင့် ZKG Asia Limited တည်ထောင်၍ CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း ဆောင်ရွက်ခွင့် ပြုပါရန် တင်ပြလာခြင်း ကိစ္စ**

၁။ ဟောင်ကောင် Top Crown Industries Limited မှ ၅၀ % နှင့် ဟောင်ကောင် မှ Chater Limited ၅၀ % ထည့်ဝင်၍ မြန်မာနိုင်ငံတွင် ရာခိုင်နှုန်းပြည့် နိုင်ငံခြား ရင်းနှီးမြှုပ်နှံမှုဖြင့် ZKG Asia Limited တည်ထောင်ပြီး အမှတ် (၅၀)၊ ရွှေမြို့တော်စေတီလမ်း၊ ရန်ကုန်စက်မှုဇုန်၊ မင်္ဂလာဒုံ ဥယျာဉ်မြို့တော်၊ ရန်ကုန်တိုင်းဒေသကြီးရှိ မြေ ၈၀၉၃.၇၂ စတုရန်း မီတာ (၂.၀၁ဧက) ၌ CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း ဆောင်ရွက်ခွင့်ပြုပါရန် မြန်မာနိုင်ငံ ရင်းနှီးမြှုပ်နှံမှု ကော်မရှင်သို့ အဆိုပြုလွှာ တင်ပြလာပါသည်။

၂။ အဆိုပြုချက်နှင့်အတူ မြေပိုင်ရှင် ဦးစိုးစိုး(ခ)ဦးစိုးစိုးသန်းနှင့် ZKG Asia Limited တို့ ချုပ်ဆိုမည့် မြေနှင့်အဆောက်အဦ ငှားရမ်းခြင်း စာချုပ်(မူကြမ်း)၊ အဆောက်အဦ ခါတ်ပုံ၊ မြေဆိုင်ရာ အထောက်အထားများနှင့် လုပ်ငန်းတည်နေရာပြ မြေပုံနှင့် မြန်မာနိုင်ငံတွင် ဖွဲ့စည်းထားသော ကုမ္ပဏီသင်းဖွဲ့မှတ်တမ်းနှင့် သင်းဖွဲ့စည်းမျဉ်း (မူကြမ်း) တို့ကို ပူးတွဲတင်ပြထား ပါသည်။

၃။ မြေငှားသက်တမ်းမှာ ကနဦး (၁၂) နှစ်ဖြစ်ပြီး နောက်ထပ် (၁၀) နှစ် (၁)ကြိမ် နှင့် (၈)နှစ် (၁)ကြိမ် သက်တမ်းတိုးမည်ဖြစ်ပါသည်။ လုပ်ငန်းဆောင်ရွက်မည့် မြေဧရိယာ ၈၀၉၃.၇၂ စတုရန်းမီတာ (၂.၀၁ဧက) အား တစ်နှစ်တစ်စတုရန်းမီတာလျှင် ကျပ် ၄၅၉၆၁.၅၆ နှုန်းဖြင့် ငှားရမ်း မည်ဖြစ်ပြီး၊ တစ်နှစ်ငှားရမ်းခ ကျပ် ၃၇၂ သန်း ရရှိမည်ဖြစ်ပါသည်။

၄။ လုပ်ငန်းစီမံကိန်းကာလမှာ (၅၀)နှစ်ဖြစ်ပြီး တည်ဆောက်မှုကာလ (၆)လဟု ဖော်ပြ ထားပါသည်။

၅။ လုပ်ငန်း၏ စုစုပေါင်းရင်းနှီးမြှုပ်နှံမှုမှာ US $ ၁.၈၂၆၄ သန်း ဖြစ်ပြီး ၎င်းတွင် ငွေသား US $ ၀.၇၃၆၂ သန်း၊ စက်နှင့်စက်ပစ္စည်းတန်ဘိုး(ပြည်ပဝယ်)US $ ၁.၀၉၀၂ သန်း တို့ပါဝင်ပါ သည်။

၆။ လုပ်ငန်းဆောင်ရွက်ရန်အတွက် ပြည်တွင်းမှ ဝန်ထမ်း(၁၃၂၉)ဦးနှင့် ပြည်ပမှ ဝန်ထမ်း (၉)ဦး စုစုပေါင်း(၁၃၃၈)ဦး ခန့်ထားမည်ဖြစ်ပါသည်။ ပြည်တွင်းမှ အနိမ့်ဆုံးဝန်ထမ်းတစ်ဦး၏ လစာမှာ US $ ၉၀ ဖြစ်ပြီး၊ အမြင့်ဆုံးဝန်ထမ်းတစ်ဦး၏ လစာမှာ US $ ၅၀၀ ဖြစ်ပါ သည်။ ပြည်ပမှ အနိမ့်ဆုံးဝန်ထမ်းတစ်ဦး၏ လစာမှာ US $ ၆၅၀ ဖြစ်ပြီး၊ အမြင့်ဆုံးဝန်ထမ်း တစ်ဦး၏ လစာမှာ US $ ၁,၀၀၀ ဖြစ်ပါသည်။

၇။ လုပ်ငန်းမှ ထွက်ရှိသော ကုန်ချောပစ္စည်းများကို ပြည်ပသို့ ၁၀၀% တင်ပို့ရောင်းချ မည်ဖြစ်ပါသည်။ ပုံမှန်နှစ်(၆နှစ်မြောက်)၏ ထုတ်လုပ်မှုအရေအတွက် နှင့် စျေးနှုန်းများမှာ အောက်ပါအတိုင်းဖြစ်ပါသည်-

	အမျိုးအမည်	ထုတ်လုပ်မှု အရေအတွက် (Doz)	CMP လက်ခ (US$/ Doz)
1.	Jacket all kinds	၇၃,၀၀၀	၃၄.၈၀
2.	Pant of all kinds	၇၃,၀၀၀	၂၂.၈၀
3.	Outdoor & clothing Accessories of all kinds	၅၆,၀၀၀	
	(a) Socks	၉,၀၀၀	၃.၅၀
	(b) Sleeping bags	၉,၀၀၀	၄.၅၀
	(c) Hats	၉,၀၀၀	၃.၅၀
	(d) Head masks	၉,၀၀၀	၃.၀၀
	(e) Gloves	၂၀,၀၀၀	၃.၀၀

၈။ ဤလုပ်ငန်းကို ဆောင်ရွက်ခြင်းဖြင့်ပုံမှန်နှစ် (၆)နှစ်မြောက်တွင် ရရှိမည့် ကုမ္ပဏီ၏ ဝင်ငွေနှင့် အသုံးစရိတ် ခန့်မှန်းခြေမှာ အောက်ပါအတိုင်း ဖြစ်ပါသည် -

US $ (သန်း)

(က)	ဝင်ငွေ	၄.၃၉၅၃
(ခ)	အသုံးစရိတ်	၄.၀၂၈၁
(ဂ)	အသားတင်အမြတ်	၀.၃၆၇၂

၉။ ဤလုပ်ငန်းကို ဆောင်ရွက်ခြင်းဖြင့် နိုင်ငံတော်မှ ပုံမှန်နှစ်တွင် ရရှိမည့် အကျိုးအမြတ် ခန့်မှန်းခြေမှာ ဝင်ငွေခွန် US $ ၀.၁၂၃ သန်း ရရှိမည်ဖြစ်ပြီး၊ လုပ်ငန်း၏ အရင်းကြေကာလမှာ ၄နှစ် ၅ လ ဖြစ်ပြီး အရင်းအနှီးအပေါ် အကျိုးအမြတ် ပြန်ပေါ်နှုန်း IRR မှာ ၁၈.၇၀% ဖြစ်ပါသည်။ အမေရိကန်ဒေါ်လာ တစ်ဒေါ်လာလျှင် ၉၈၀ကျပ် နှုန်းဖြင့် တွက်ချက်ဖော်ပြထားပါသည်။

၁၀။ အဆိုပြုလုပ်ငန်းနှင့်စပ်လျဉ်း၍ သက်ဆိုင်ရာဌာနများမှ အောက်ပါအတိုင်း သဘောထား မှတ်ချက်ပြန်ကြားထားပါသည် -

(က) **ရန်ကုန်တိုင်းဒေသကြီးအစိုးရအဖွဲ့**မှ ရင်းနှီးမြှုပ်နှံမှုပြုလုပ်မည့် နေရာသည် နောင်ပြုလုပ်မည့် (သို့မဟုတ်) လက်ရှိမြို့ပြစီမံကိန်းကို ထိခိုက်နိုင်ခြင်း မရှိ

ပါကြောင်း၊ အဆိုပြုလုပ်ငန်းလုပ်ကိုင်ပါက မြို့နယ်ဒေသ အလုပ်အကိုင်အခွင့်အလမ်းနှင့် ဒေသစီးပွားရေးဖွံ့ဖြိုးတိုးတက်မှုအတွက် အထောက်အကူ ဖြစ်စေပါကြောင်း၊ ရင်းနှီးမြှုပ်နှံမှု လုပ်ငန်းသစ် ဆောင်ရွက်မှုအား ခွင့်ပြုသင့်ပါကြောင်း၊ အဆိုပြုလုပ်ငန်း လုပ်ကိုင်ရန်အတွက် အမှတ်(၅၀)၊ရွှေမြို့တော်စေတီလမ်း၊ ရန်ကုန်စက်မှုဇုန်၊ မင်္ဂလာဒုံ ဥယျာဉ်မြို့တော်၊ ရန်ကုန်တိုင်း ဒေသကြီးရှိ မြေ ၈၀၉၃.၇၂ စတုရန်းမီတာ (၂၉က) ရှိ မြေနှင့်အဆောက်အဦကို တစ်နှစ်အတွက် ၁ စတုရန်းမီတာလျှင် US $ ၄၇.၃၈ နှုန်းဖြင့် (၁၂+၁၀+၁၀)နှစ်၊ စုစုပေါင်း (၃၂)နှစ်ငှားရမ်းလုပ်ကိုင်ခြင်းအပေါ် ဒေသခံများကလူမှုရေး၊ စီးပွားရေး၊ သဘာဝပတ်ဝန်းကျင် ထိန်းသိမ်းမှုတို့အရ လက်ခံနိုင်ခြင်းရှိပါကြောင်း၊ အဆိုပြုလုပ်ငန်းလုပ်ကိုင်ရာတွင် သဘာဝပတ်ဝန်းကျင် ထိခိုက်မှုမရှိစေရန် စီမံဆောင်ရွက်မည်ဟုတင်ပြထားပါကြောင်း ၂၀၁၄ ခုနှစ် မေလ ၂၉ ရက်နေ့ တွင်ကျင်းပသော ရန်ကုန်တိုင်းဒေသကြီးအစိုးရအဖွဲ့ အစည်းအဝေးအမှတ်စဉ် (၂၀/၂၀၁၄) ဆုံးဖြတ်ချက်အပိုဒ် (၃၂)အရ ZKG Asia Limited ၏ ရင်းနှီး မြှုပ်နှံမှု လုပ်ငန်းသစ် ဆောင်ရွက်မှုအား ခွင့်ပြုသင့်ပါကြောင်း သဘောထား ပြန်ကြားထားပါသည်။ **နောက်ဆက်တွဲ(က)**

(ခ) **ပတ်ဝန်းကျင် ထိန်းသိမ်းရေးနှင့် သစ်တောရေးရာ ဝန်ကြီးဌာနမှ** အဆိုပြုလုပ်ငန်း ဆောင်ရွက်ခွင့်ပြုရန် ကိစ္စနှင့်ပတ်သက်၍ အောက်ဖော်ပြပါ အချက်များအတိုင်း လိုက်နာဆောင်ရွက်ရန် လိုအပ်မည်ဖြစ်ပါကြောင်း သဘောထားမှတ်ချက် ပြန်ကြားထားပါသည် -

(၁) အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်းကြောင့်ဖြစ်ပေါ်လာနိုင်သည့် ပတ်ဝန်းကျင်နှင့် လူမှုရေးထိခိုက် ပျက်စီးမှုများ လျော့နည်းစေရန်အတွက် လုပ်ငန်းစီမံကိန်းရေးဆွဲချမှတ်ခြင်း၊ ထုတ်လုပ်ခြင်း အဆင့်ဆင့်တို့အတွက် စီမံကိန်းဆိုင်ရာ အချက်အလက်များ ပြည့်စုံစွာဖော်ပြပြီး လုပ်ငန်းဆောင်ရွက်ရာတွင် ပတ်ဝန်းကျင်ထိခိုက်မှု အနည်းဆုံးဖြစ်စေမည့် ကုန်ထုတ်လုပ်မှုနည်းပညာများ အသုံးပြုဆောင်ရွက်ရန်၊

(၂) စွန့်ပစ်ပစ္စည်းများအား စနစ်တကျစွန့်ပစ်မည့် အစီအစဉ်များပါဝင်သည့် စွန့်ပစ်ပစ္စည်းစီမံခန့်ခွဲမှုအစီအစဉ်၊ စောင့်ကြည့်လေ့လာမည့် အစီအစဉ်၊ ပတ်ဝန်းကျင်ထိခိုက်မှုလျော့ပါးရေး ဆောင်ရွက်မည့်လုပ်ငန်းများအတွက် သုံးစွဲမည့် ရန်ပုံငွေစသည်တို့ ပါဝင်သည့် ပတ်ဝန်းကျင်ဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan- EMP) ရေးဆွဲတင်ပြရန်နှင့် စီမံချက်ပါအတိုင်း အကောင်အထည်ဖော် ဆောင်ရွက်ရန်၊

(၃) ပြဋ္ဌာန်းထားသည့် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဆိုင်ရာ ဥပဒေ၊နည်းဥပဒေ၊ လုပ်ထုံးလုပ်နည်း၊ စည်းမျဉ်းစည်းကမ်းများနှင့်အညီ လိုက်နာကျင့်သုံး

အကောင်အထည်ဖော် ဆောင်ရွက်ရန်လိုကြောင်း သဘောထားမှတ်ချက် ပြန်ကြားလာရာ**ကုမ္ပဏီမှ ပတ်ဝန်းကျင် ထိန်းသိမ်း ရေးနှင့် သစ်တော ရေးရာ ဝန်ကြီးဌာန၏ သဘောထားမှတ်ချက်နှင့်အညီ (AMK & Associates EIA Consulting) သို့ ၂၀၁၄ ခုနှစ် ဧပြီလ ၅ ရက်နေ့တွင် အပ်နှံဆောင်ရွက်နေကြောင်း ဝန်ခံကတိ တင်ပြထားပါသည်။**

နောက်ဆက်တွဲ(ခ)

(ဂ) **စက်မှုဝန်ကြီးဌာန** မှ ရာခိုင်နှုန်းပြည့်နိုင်ငံခြားရင်းနှီးမြှုပ်နှံပြီး CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း ဆောင်ရွက်မည်ဖြစ်ပါကြောင်း၊ လျှပ်စစ်သွယ်တန်း အသုံးပြုမှုများနှင့် ဘွိုင်လာတပ်ဆင်အသုံးပြုမှုများကို လျှပ်စစ်ဥပဒေ၊ ဘွိုင်လာဥပဒေတို့နှင့်အညီ အသုံးမပြုမီ စစ်ဆေးဆောင်ရွက်ရန် လိုအပ်ပါကြောင်း၊ပတ်ဝန်းကျင်ညစ်ညမ်းမှုမဖြစ်ပေါ်စေရေးအတွက် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး ဦးစီးဌာန၏ စိစစ်ချက်ဖြင့် စနစ်တကျဆောင်ရွက်ရန်နှင့် မီးဘေးအန္တရာယ်ကြိုတင်ကာကွယ်ရေး အစီအမံများဆောင်ရွက်သွားရန် လိုအပ်ပါကြောင်း၊ ပုဂ္ဂလိကစက်မှုလုပ်ငန်း ဥပဒေနှင့်အညီ စက်မှုမှတ်ပုံတင် ဆောင်ရွက်ရန် လိုအပ်ပါကြောင်း၊ ကုန်ကြမ်းနှင့် ပူးတွဲသုံးပစ္စည်း တင်ပြထားချက် ဆီလျော်မှုရှိပါကြောင်း၊ CMP လုပ်ခနှုန်းထား တင်ပြထားချက်တွင် Jacket နှင့် Pants အတွက် လျော့နည်းနေသဖြင့် တိုးမြှင့်ပြင်ဆင်တင်ပြရန် လိုအပ်ပါကြောင်း၊ ဝန်ထမ်းအင်အားအရ စက်အင်အားများပြားနေ၍ ပြင်ဆင်တင်ပြရန် လိုအပ်ပြီး နှစ်အလိုက် ကုန်ထုတ်လုပ်မှု အားအနည်းငယ် တိုးမြှင့်ပြင်ဆင်ရန် လိုအပ်ပါကြောင်း၊ နှစ်အလိုက် ကုန်ထုတ်လုပ်မှု နှင့် ကုန်ကြမ်းနှင့် ပူးတွဲသုံးပစ္စည်း သုံးစွဲမှုနှုန်းအပေါ်မူတည်၍ နှစ်အလိုက် ကုန်ကြမ်းနှင့် ပူးတွဲသုံးပစ္စည်းလိုအပ်ချက်အား ပြင်ဆင်တင်ပြရန် လိုအပ်ပါကြောင်း သဘောထားမှတ်ချက် ပြန်ကြားလာရာ **ကုမ္ပဏီမှပြင်ဆင်ပြီး ပြန်လည်တင်ပြချက်များကို စက်မှုဝန်ကြီးဌာနမှစိစစ်ပြီးဖြစ်ပါသည်။** **နောက်ဆက်တွဲ(ဂ)**

(ဃ) **CMP လုပ်ငန်းများကြီးကြပ်ရေးကော်မတီ** မှ အဆိုပြုလုပ်ငန်းသည် တစ်နှစ်လုံးစာကုန်ကြမ်းလိုအပ်ချက်မှာ တစ်ထည်လိုအပ်ချက်နှုန်း ထားတားမြစ်သတ်မှတ်စံနှုန်းများနှင့် ကိုက်ညီမှု ရှိကြောင်း၊ပစ္စည်းအားလုံး ထုတ်လုပ်မည်ဆိုပါက စုစုပေါင်းကုန်ကြမ်း ၂၉၃၈၂၀၀ yds ကုန်ကျမည်ဖြစ်၍ အဆိုပြုချက်ပါ ကုန်ကြမ်းနှင့် ကိုက်ညီမှုရှိပါကြောင်း၊ CMP လက်ခနှုန်းထားများကို လက်ရှိရရှိသည့် လက်ခနှုန်းထားများနှင့် နှိုင်းယှဉ်ရာတွင် အနည်းငယ် လျော့နေကြောင်း တွေ့ရှိရ၍ ပြင်ဆင်တင်ပြသင့်ပါကြောင်း၊ ထုတ်လုပ်မည့် ပစ္စည်းများမှာ Jacket, Pant,Socks,Sleeping bag,Hats, Head masksm Gloves တို့ဖြစ်ပြီ Single Needle Sewing M/C(၂၁၃၈)လုံး၊ Double Needle

M/C(၁၉၈)လုံး၊ Overlock M/C (၃၅၅)လုံးဖြင့် Skilled Workers(၆၀၀)ဦး Unskilled Worker(၅၀)ဦးဖြစ်ပြီး Export ဖြစ်၍ QC,PQC ခန့်ထားသင့်ပါကြောင်း စက်အလုံးအရေ များနေပြီးလူဦးရေ လွန်စွာနည်းနေသဖြင့် အချိုးအစားညီမျှမှုမရှိ၍ စက်အားလုံး မလည်ပတ်နိုင်၍ ပြင်ဆင်တင်ပြသင့်ပါကြောင်း၊အဆိုပြုချက်ပါစက်အင်အား ထုတ်လုပ်ပါက အမှတ်စဉ် (၁)နှင့်(၂) တို့မှာ ထုတ်လုပ်နိုင်မှုမရှိကြောင်း တွေ့ရှိရသဖြင့် လူအင်အား ထပ်မံခန့်ထားမှသာ ထုတ်လုပ်နိုင်မည်ဖြစ်ပြီး ထုတ်လုပ်မှုအတိုင်းသာ ကုန်ကြမ်းတင်သွင်းသင့်ပါကြောင်း ပြန်ကြားလာရာ **ကုမ္ပဏီမှပြင်ဆင်ပြီး ပြန်လည်တင်ပြချက်များကို CMPလုပ်ငန်းများကြီးကြပ်ရေးကော်မတီမှစိစစ်ပြီးဖြစ်ပါသည်။**

နောက်ဆက်တွဲ(ဃ)

၁၁။ ငွေရေးကြေးရေး အထောက်အထားအဖြစ် Top Crown Industries Limited သည် ၂၀၁၃ ခုနှစ် ဒီဇင်ဘာလ ၃ ရက် ရက်စွဲဖြင့် Hang Seng Bank ၌ ဟောင်ကောင် ဒေါ်လာသန်းဂဏန်းရှိကြောင်း ထောက်ခံစာနှင့် ၂၀၁၃ ခုနှစ် ဒီဇင်ဘာလ ၃ ရက်နေ့တွင် ဟောင်ကောင်တွင်ကုမ္ပဏီမှတ်ပုံတင်အမှတ် ၈၇၃၆၄၃၉ ဖြင့် ကုမ္ပဏီမှတ်ပုံတင်ထားသည့် အထောက်အထားကို တင်ပြထားပါသည်။ Chater Limited သည် ၂၀၁၃ ခုနှစ် ဒီဇင်ဘာလ ၃ ရက် ရက်စွဲဖြင့် Hang Seng Bank ၌ ဟောင်ကောင် ဒေါ်လာသန်းဂဏန်းရှိကြောင်း ထောက်ခံစာနှင့် ၂၀၀၈ ခုနှစ်မေလ ၂၉ ရက်နေ့ တွင် ဟောင်ကောင်တွင်ကုမ္ပဏီမှတ်ပုံတင်အမှတ် ၁၂၄၂၂၇၉ ဖြင့် ကုမ္ပဏီမှတ်ပုံတင်ထားသည့်အထောက်အထားကိုတင်ပြထားပါသည်။ ဒါရိုက်တာအဖွဲ့ဝင်များ၏ Passport မိတ္တူများကို တင်ပြထား ပါသည်။

၁၂။ **မီးဘေးကြိုတင်ကာကွယ်ရေးစီမံချက်** မီးဘေးကြိုတင်ကာကွယ်ရေးအတွက် ရေပုံး၊ မီးကပ်၊ သဲအိတ်၊ မီးသတ်ဆေးဘူးများကို အဆင်သင့် ထားရှိမည်ဖြစ်ပါကြောင်း၊ စက်ရုံနံရံတွင်လည်း မီးသတ်ဘူးများ ချိတ်ဆွဲထားရှိမည် ဖြစ်ပါကြောင်း၊ စက်ရုံအတွင်းတွင် မီးဘေးအန္တရာယ်အတွက် စည်းကမ်းချက်များ ချမှတ်ထားပြီး ဝန်ထမ်းများ တိကျစွာလိုက်နာ ဆောင်ရွက်ရန်လည်း စီမံထားပါကြောင်း၊ ဝန်ထမ်းများကိုလည်း မီးဘေးအန္တရာယ်အရေး ပေါ် ကာကွယ်ရန် မီးသတ်နည်းပညာများ လေ့ကျင့်သင်ကြားပေးမည် ဖြစ်ပါကြောင်း၊ စက်ရုံအတွင်းနှင့် အနီးပတ်ဝန်းကျင်တွင် ဆေးလိပ်သောက်ခြင်းကို ပြဋ္ဌာန်းထားသော ဥပဒေများနှင့်အညီ တင်းကြပ်စွာတားမြစ်ထားရှိခြင်း၊ လျှပ်စစ်နှင့် ပတ်သက်သည့် အန္တရာယ်များ မဖြစ်ပေါ်အောင်လည်း ဆောင်ရွက်ထားရှိမည် ဖြစ်ပါကြောင်း၊ စက်ရုံနံရံတွင် မီးသတ်ဆေးဘူးများ ချိတ်ဆွဲထားရှိမည် ဖြစ်ပါကြောင်း တင်ပြထားပါသည်။

၁၃။ ZKG Asia Limited မှ စက်ရုံဝန်ထမ်းများ သက်သာချောင်ချိ ရေး နှင့်လုပ်ငန်းခွင်သာယာရေးစီစဉ်ထားရှိမှုများနှင့် ပတ်ဝန်းကျင်နှင့် လူမှုရေးဆိုင်ရာလုပ်ငန်း များအတွက်

နှစ်စဉ်အသားတင်အမြတ်ငွေ၏ ၁%ကို အသုံးပြုခြင်းပါရှိသည့် Corporate Social Responsibility Plan တို့ကို တင်ပြထားပါသည်။

၁၄။ နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု ဥပဒေပါ အခွန်ဆိုင်ရာ ကင်းလွတ်ခွင့်နှင့် သက်သာခွင့်များကို ခံစားခွင့်ပြုပါရန် တင်ပြထားပါသည်။

၁၅။ အဆိုပါလုပ်ငန်းသည် မြန်မာနိုင်ငံ ရင်းနှီးမြှုပ်နှံမှုကော်မရှင်မှ ၁/၂၀၁၃ ဖြင့် ထုတ်ပြန်ထားသည့် စီးပွားရေးလုပ်ငန်း အမျိုးအစားများတွင် ခွင့်မပြုသည့်လုပ်ငန်း၊ ဖက်စပ်စနစ်ဖြင့်သာ ဆောင်ရွက်ရမည့်လုပ်ငန်း၊ ကန့်သတ်ချက် တစ်ရပ်ရပ်ကို လိုက်နာဆောင်ရွက်ရမည့် လုပ်ငန်းစာရင်းတို့တွင် မပါဝင်သဖြင့် နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု ဥပဒေအရ ခွင့်ပြုနိုင်သော လုပ်ငန်းအမျိုးအစား ဖြစ်ပါသည်။

၁၆။ အဆိုပြုချက်စိစစ်ရေးအဖွဲ့၏ ၁၈/၂၀၁၄ (၂-၅-၂၀၁၄) အစည်းအဝေးသို့ တင်ပြခဲ့ပါသည်။

၁၇။ နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု ဥပဒေအရ ပုဂ္ဂလိကမြေတွင် ငှားရမ်းဆောင်ရွက်ခွင့်ပြုရန်ကိစ္စကို ပြည်ထောင်စုသမ္မတ မြန်မာနိုင်ငံတော် ပြည်ထောင်စု အစိုးရအဖွဲ့၏ ၂၀၁၄ ခုနှစ် ဇွန်လ (၄) ရက်နေ့တွင် ကျင်းပပြုလုပ်သည့် အစည်းအဝေးအမှတ်စဉ် (၁၁/၂၀၁၄)မှ သဘောတူထားပါသည်။

ဆုံးဖြတ်ရန်အချက်

၁၈။ ZKG Asia Limited တည်ထောင်ပြီး အမှတ် (၅၀)၊ ရွှေမြို့တော်စေတီလမ်း၊ ရန်ကုန်စက်မှုဇုန်၊ မင်္ဂလာဒုံ ဥယျာဉ်မြို့တော်၊ ရန်ကုန်တိုင်းဒေသကြီးရှိ မြေ ၈၀၉၃.၇၂ စတုရန်း မီတာ (၂.၀၁ဧက) ၌ CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း နှင့် စပ်လျဉ်း၍ ခွင့်ပြုမိန့် ထုတ်ပေးရန် သဘောတူ-မတူ။

ဥက္ကဋ္ဌ(ကိုယ်စား)
(မြေသုဇာ၊တွဲဖက်အတွင်းရေးမှူး)

မိတ္တူ

ရုံးလက်ခံ

ကုမ္ပဏီဒါရိုက်တာနှင့်အစုရှင်များ၏နေရပ်လိပ်စာစာရင်း

စဉ်	ကုမ္ပဏီအမည်	ဒါရိုက်တာ/အစုရှင်များ၏အမည်	ဒါရိုက်တာ/အစုရှင်များ၏ ဆက်သွယ်ရန်လိပ်စာ
၁။	ZKG Asia Limited	Top Crown Industries Ltd. Represented by	
		(၁) Mr. Lee Kwok Sun, Thomas Chinese PP No.K-02504889	Rm-3708,Asia Trade Centre,79 Lei Muk Road, Kwai Chung, NT, Hong Kong
		Chater Ltd. Represented by	
		(၂) Mrs. Chow Pui Fong, Dora Chinese PP No.K-02504887	Rm.3708,Asia Trade Centre, 79 Lei Muk Road, Kwai Chung, NT, Hong Kong
		(၃) Ms. Wong Sui Ping Chinese PP No.HA-2013234	Rm.3710, Asia Trade Centre, 79 Lei Muk Road, Kwai Chung, NT, Hong Kong

၁။ ဆက်သွယ်ရမည့်တယ်လီဖုန်းနံပါတ်၊ ဖက်စ်နံပါတ် - ၀၉-၄၂၁၀၂၂၄၁၈

၂။ ဆက်သွယ်ရမည့် လိပ်စာအပြည့်အစုံ -

။ ဆက်သွယ်ရမည့်ပုဂ္ဂိုလ်အမည်၊ရာထူး - ဦးမိုးလွင်
Consultant

၄။ ကုမ္ပဏီအနေဖြင့်ဆောင်ရွက်သည့်လုပ်ငန်းများ - CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း

၅။ ကုမ္ပဏီမှတ်ပုံတင်အမှတ်/နေ့စွဲ -

၆။ ကုမ္ပဏီမှတ်ပုံတင် သက်တမ်းကုန်ဆုံးသည့်နေ့စွဲ -

၇။ ဘဏ်အမည်နှင့်ဘဏ်စာရင်းအမှတ် -

နောက်ဆက်တွဲ-က

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
တိုင်းဒေသကြီးအစိုးရအဖွဲ့
ရန်ကုန်တိုင်းဒေသကြီး

စာအမှတ်၊ ၂ / ၃ - ၆ (၅) / စီးပွား
ရက် စွဲ ၊ ၂၀၁၄ ခုနှစ်၊ ဇွန် လ ၃ ရက်

သို့

မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်
နေပြည်တော်

အကြောင်းအရာ ။ **သဘောထားမှတ်ချက်တောင်းခံခြင်းကိစ္စ**

ရည် ညွှန်း ချက်။ မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်၏ ၂၉. ၄. ၂၀၁၄ ရက်စွဲပါစာအမှတ်၊ ရက - ၁ / န - ၁၀၁၇ / ၂၀၁၄ (၄၃၆၀)

၁။ ဟောင်ကောင် Top Crown Industries Limited မှ ၅၀% နှင့် Chater Limited မှ ၅၀% ထည့်ဝင်၍ မြန်မာနိုင်ငံတွင် ရာခိုင်နှုန်းပြည့်နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှုဖြင့် ZKG Asia Limited တည်ထောင်ပြီး အမှတ်(၅၀)၊ ရွှေမြို့တော်စေတီလမ်း၊ ရန်ကုန်စက်မှုဇုန်၊ မင်္ဂလာဒုံဥယျာဉ်မြို့တော်၊ ရန်ကုန်တိုင်းဒေသကြီးရှိ မြေ (၈၀၉၃. ၇၂) စတုရန်းမီတာ (၂ ဧက)၌ CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း ဆောင်ရွက်ခွင့်ပြုပါရန် လျှောက်ထားလာမှုအပေါ် အောက်ပါအချက်များအား သဘောထားမှတ်ချက် ပြန်ကြားပေးပါရန် ရည်ညွှန်းပါစာဖြင့် ညှိနှိုင်းအကြောင်းကြားလာခြင်းနှင့်ပတ်သက်၍ ကွင်းဆင်းစိစစ်မှုအရ အောက်ပါအတိုင်း သဘောထားမှတ်ချက် တင်ပြအပ်ပါသည်-

(က) ရင်းနှီးမြှုပ်နှံမှု ပြုလုပ်မည့်နေရာသည် နောင်ပြုလုပ်မည့် (သို့မဟုတ်) လက်ရှိမြို့ပြစီမံကိန်းကို ထိခိုက်နိုင်ခြင်းမရှိပါ၊

(ခ) အဆိုပြုလုပ်ငန်းလုပ်ကိုင်ပါက ပြည်တွင်းလုပ်သားအင်အား (၆၈၄)ဦး အလုပ်အကိုင်ရရှိမည်ဖြစ်သောကြောင့် မြို့နယ်ဒေသအလုပ်အကိုင် အခွင့်အလမ်းနှင့် ဒေသစီးပွားရေးဖွံ့ဖြိုးတိုးတက်မှုအတွက် အထောက်အကူဖြစ်စေပါသည်၊

(ဂ) အဆိုပြုလုပ်ငန်းလုပ်ကိုင်ရန်အတွက် အမှတ်(၅၀)၊ ရွှေမြို့တော်စေတီလမ်း၊ ရန်ကုန်စက်မှုဇုန်၊ မင်္ဂလာဒုံဥယျာဉ်မြို့တော်၊ ရန်ကုန်တိုင်းဒေသကြီးရှိ မြေ (၈၀၉၃. ၇၂)စတုရန်းမီတာ၊ (၂ ဧက)ရှိ မြေနှင့်အဆောက်အဦကို တစ်နှစ်အတွက် ၁ စတုရန်းမီတာလျှင် USD ၄၇. ၃၈ နှုန်းဖြင့် (၁၂+၁၀+၁၀)နှစ်၊ စုစုပေါင်း(၃၂)နှစ် ငှားရမ်းလုပ်ကိုင်ခြင်းအပေါ် ဒေသခံများက လူမှုရေး၊ စီးပွားရေး၊ သဘာဝပတ်ဝန်းကျင် ထိန်းသိမ်းမှုတို့အရ လက်ခံနိုင်ခြင်း ရှိပါသည်၊

(ဃ) အဆိုပြုလုပ်ငန်းလုပ်ကိုင်ရာတွင် သဘာဝပတ်ဝန်းကျင် ထိခိုက်မှုမရှိစေရန် စီမံဆောင်ရွက်မည်ဟု တင်ပြထားပါသည်။

၂။ အထက်ဖော်ပြပါ အချက်များကြောင့် (၂၉. ၅. ၂၀၁၄) ရက်နေ့တွင် ကျင်းပပြုလုပ်သော ရန်ကုန်တိုင်းဒေသကြီးအစိုးရအဖွဲ့ အစည်းအဝေးအမှတ်စဉ် (၂၀/၂၀၁၄)၊ ဆုံးဖြတ်ချက်အပိုဒ် (၃၂)အရ ZKG Asia Limited ၏ ရင်းနှီးမြှုပ်နှံမှုလုပ်ငန်းသစ်ဆောင်ရွက်မှုအား ခွင့်ပြုသင့်ပါကြောင်း ထောက်ခံ တင်ပြအပ်ပါသည်။

(မြင့်ဆွေ)
ဝန်ကြီးချုပ်

မိတ္တူကို

ရန်ကုန်တိုင်းဒေသကြီးသစ်တောနှင့်စွမ်းအင်ဝန်ကြီး
ရန်ကုန်မြောက်ပိုင်းခရိုင်အထွေထွေအုပ်ချုပ်ရေးဦးစီးဌာန
မင်္ဂလာဒုံမြို့နယ်အထွေထွေအုပ်ချုပ်ရေးဦးစီးဌာန
ZKG Asia Limited
လက်ခံစာတွဲ/မျှောစာတွဲ

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်အစိုးရ
ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးနှင့်သစ်တောရေးရာဝန်ကြီးဌာန
ပြည်ထောင်စုဝန်ကြီးရုံး

M-4453
14/5/2014

စာအမှတ် ၂/၂၂၀(ခ)(၆)/(၃၃၃၇/၂၀၁၄)
ရက်စွဲ ၂၀၁၄ ခုနှစ်၊ မေလ ၉ ရက်

သို့

မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်

အကြောင်းအရာ။ ZKG Asia Limited မှ CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း ဆောင်ရွက်ခွင့်ပြုပါရန်ကိစ္စနှင့်ပတ်သက်၍ သဘောထားမှတ်ချက် တင်ပြခြင်း

ရည် ညွှန်း ချက် ။ မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်၏ ၂၉-၄-၂၀၁၄ ရက်စွဲပါစာအမှတ်- ရက -၁/န -၁၀၁၇/၂၀၁၄ (၄၃၆၂)

၁။ မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်မှ ဟောင်ကောင် Top Crown Industries Limited မှ ၅၀% နှင့် Chater Limited မှ ၅၀% ထည့်ဝင်၍ မြန်မာနိုင်ငံတွင် ရာခိုင်နှုန်းပြည့် နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှုဖြင့် ZKG Asia Limited တည်ထောင်ပြီး အမှတ် (၅၀)၊ ရွှေမြို့တော် စေတီလမ်း၊ ရန်ကုန်စက်မှုဇုန်၊ မင်္ဂလာဒုံဥယျာဉ်မြို့တော်၊ ရန်ကုန်တိုင်းဒေသကြီးရှိ မြေ (၈၀၉၃.၇၂) စတုရန်းမီတာ၊ (၂) ကေဋ္ဌ CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း ဆောင်ရွက်ခွင့်ပြုပါရန် ကိစ္စနှင့်ပတ်သက်၍ စီစစ်ပြီး ဌာနဆိုင်ရာသဘောထားမှတ်ချက်ကို ပြန်ကြားအပ်ပါသည်။

၂။ ပူးတွဲပေးပို့လာသည့်အဆိုပြုလွှာတွင် နိုင်ငံခြားရင်းနှီးမြှုပ်နှံခွင့် လျှောက်ထားခြင်း၊ ရင်းနှီးမြှုပ်နှံမှုကာလ မှာကနဦး(၁၂)နှစ်ဖြင့်စတင်ဆောင်ရွက်မည်ဖြစ်ကြောင်း၊ မြေငှားစာချုပ်၊ ထုတ်လုပ်မည့်ကုန်ပစ္စည်းအမျိုးအစား၊ အထည်ချုပ်စက်ရုံပုံစံ၊ အသုံးပြုမည့်စက်ပစ္စည်းနှင့် ကုန်ကြမ်းပစ္စည်းစာရင်း၊ စက်ရုံဝန်ထမ်းများအတွက် သက်သာချောင်ချိရေးနှင့် ကျန်းမာရေးအတွက် ဆောင်ရွက်ထားရှိမည့် အစီအစဉ်များ၊ မီးဘေးကာကွယ်ရေး အစီအစဉ်များ၊ ပတ်ဝန်းကျင် ညစ်ညမ်းမှုမရှိစေရန် ထွက်ရှိလာသောအဝတ်အပိုင်းအစများအနက် အချို့အဝတ်စအမှိုက်များ အား ပြည်တွင်းရှိ Recycle လုပ်ငန်းများတွင် အသုံးပြုပြီး ကျန်အမှိုက်များကို စည်ပင်သာယာအမှိုက်

သိမ်းအဖွဲ့မှ တစ်ဆင့်စွန့်ပစ်ခြင်းဖြင့် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးကို လိုက်နာဆောင်ရွက်မည်ဖြစ်ကြောင်း ဖော်ပြပါရှိပါသည်။

၃။ လုပ်ငန်းတွင် အသုံးပြုမည့် Fabric စသည့် ကုန်ကြမ်းပိတ်စ/ပစ္စည်းများသည် ဆွေးမြေ့ပျက်စီးရန် အချိန်ကြာမြင့်သဖြင့် ပတ်ဝန်းကျင်ထိခိုက်ပျက်စီးမှု ဖြစ်ပေါ်နိုင်ခြင်း၊ လုပ်ငန်းစဉ်အဆင့်တိုင်းတွင် ထွက်ရှိလာမည့် ပိတ်ဖြတ်စများ၊ အမှုန်အမွှားများကြောင့် ပတ်ဝန်းကျင် လေထုနှင့် မြေထုညစ်ညမ်းမှုများဖြစ်ပေါ်နိုင်ခြင်း၊ ပိတ်စဖြတ်ခြင်း၊ ပုံစံညှပ်ခြင်း၊ အထည်ချုပ်လုပ်ခြင်း လုပ်ငန်းအဆင့်ဆင့်တွင် စက်များအသုံးပြု၍ ဆောင်ရွက်မည်ဖြစ်သဖြင့် အသံဆူညံခြင်းစသော ပတ်ဝန်းကျင်ဆိုင်ရာ ထိခိုက်မှုပြဿနာများ ဖြစ်ပေါ်စေနိုင်ပါသည်။

၄။ သို့ဖြစ်၍ မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်မှ ဟောင်ကောင် Top Crown Industries Limited မှ ၅၀% နှင့် Chater Limited မှ ၅၀% ထည့်ဝင်၍ မြန်မာနိုင်ငံတွင် ရာခိုင်နှုန်းပြည့်နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှုဖြင့် ZKG Asia Limited တည်ထောင်ပြီး အမှတ် (၅၀)၊ ရွှေမြို့တော်စေတီလမ်း၊ ရန်ကုန်စက်မှုဇုန်၊ မင်္ဂလာဒုံ ဥယျာဉ်မြို့တော်၊ ရန်ကုန်တိုင်းဒေသကြီးရှိ မြေ (၈၀၉၃.၇၂) စတုရန်းမီတာ၊ (၂) ဧကခွဲ CMP စနစ်ဖြင့် အထည် ချုပ်လုပ်ခြင်းလုပ်ငန်း ဆောင်ရွက်ခွင့်ပြုပါရန်ကိစ္စနှင့် ပတ်သက်၍ အောက်ပါအချက်များကို ထည့်သွင်းလိုက်နာဆောင်ရွက်ရန် လိုအပ်ပါကြောင်း သဘောထားမှတ်ချက် ပြန်ကြားအပ်ပါသည်-

(က) အထည်ချုပ်လုပ်ခြင်း လုပ်ငန်းကြောင့် ဖြစ်ပေါ်လာနိုင်သည့် ပတ်ဝန်းကျင်နှင့် လူမှုရေးထိခိုက် ပျက်စီးမှုများ လျော့နည်းစေရန်အတွက် လုပ်ငန်းစီမံကိန်း ရေးဆွဲချမှတ်ခြင်း၊ ထုတ်လုပ်ခြင်း အဆင့်ဆင့်တို့အတွက် စီမံကိန်းဆိုင်ရာ အချက်အလက်များ ပြည့်စုံစွာဖော်ပြပြီး လုပ်ငန်းဆောင် ရွက်ရာတွင် ပတ်ဝန်းကျင်ထိခိုက်မှုအနည်းဆုံးဖြစ်စေမည့် ကုန်ထုတ်လုပ်မှုနည်းပညာများ အသုံးပြု ဆောင်ရွက်ရန်၊

(ခ) စွန့်ပစ်ပစ္စည်းများအား စနစ်တကျစွန့်ပစ်မည့် အစီအစဉ်များပါဝင်သည့် စွန့်ပစ်ပစ္စည်းစီမံခန့်ခွဲမှု အစီအစဉ်၊ စောင့်ကြည့်လေ့လာမည့် အစီအစဉ်၊ ပတ်ဝန်းကျင်ထိခိုက်မှုလျော့ပါးရေး ဆောင်ရွက်မည့်လုပ်ငန်းများအတွက် သုံးစွဲမည့် ရန်ပုံငွေ စသည်တို့ပါဝင်သည့် ပတ်ဝန်းကျင်ဆိုင်ရာ စီမံခန့်ခွဲ မှုစီမံချက် (Environmental Management Plan-EMP) ရေးဆွဲတင်ပြရန်နှင့် စီမံချက်ပါအတိုင်း အကောင်အထည်ဖော်ဆောင်ရွက်ရန်၊

(ဂ) ပြဋ္ဌာန်းထားသည့် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဆိုင်ရာ ဥပဒေ၊ နည်းဥပဒေ၊ လုပ်ထုံး လုပ်နည်း၊ စည်းမျဉ်းစည်းကမ်းများနှင့်အညီ လိုက်နာကျင့်သုံး အကောင်အထည်ဖော် ဆောင်ရွက်ရန်။

ပြည်ထောင်စုဝန်ကြီး(ကိုယ်စား)

(မျိုး ညွန့် ၊ ရုံး အ ဖွဲ့ မှူး)

မိတ္တူ - ညွှန်ကြားရေးမှူးချုပ်၊ ရင်းနှီးမြှုပ်နှံမှုနှင့်ကုမ္ပဏီများညွှန်ကြားမှုဦးစီးဌာန

- ညွှန်ကြားရေးမှူးချုပ်၊ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန

နောက်ဆက်တွဲ-၂

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်အစိုးရ
စက်မှုဝန်ကြီးဌာန

M-4477
19.5.2014

စာအမှတ်၊ ၂၁-စမ(၂)၂၀၁၄-၂၀၁၅(၄၂၂)
ရက် စွဲ၊ ၂၀၁၄ ခုနှစ် မေလ ၁၆ ရက်

သို့

မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်ရုံး

အကြောင်းအရာ။ **သဘောထားမှတ်ချက်ပြန်ကြားခြင်း**

ရည် ညွှန်း ချက်။ မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်၏ ၂၉.၄.၂၀၁၄ ရက်စွဲပါ စာအမှတ်၊ ရက-၁/န-၁၀၁၇/၂၀၁၄(၄၃၆၀)

၁။ ZKG Asia Limited သည် ရာခိုင်နှုန်းပြည့်နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှုဖြင့် ရန်ကုန်တိုင်းဒေသကြီး၊ မင်္ဂလာဒုံဥယျာဉ်မြို့တော်၊ ရန်ကုန်စက်မှုဇုန်၊ ရွှေမြို့တော်စေတီလမ်း၊ အမှတ်(၅၀)တွင် CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်းဆောင်ရွက် ခွင့်ပြုပါရန် တင်ပြလာခြင်းအပေါ် သဘောထားမှတ်ချက်ပြန်ကြားပေးပါရန် ရည်ညွှန်းချက်ပါစာဖြင့် အကြောင်းကြားလာပါသည်။

၂။ အဆိုပါကုမ္ပဏီမှ ဆောင်ရွက်မည့်လုပ်ငန်းများနှင့်ပတ်သက်၍ အောက်ပါအတိုင်း စိစစ်တွေ့ရှိရပါသည်-

(က) ရာခိုင်နှုန်းပြည့်နိုင်ငံခြားရင်းနှီးမြှုပ်နှံပြီး CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ငန်းဆောင်ရွက်မည်ဖြစ်ပါသည်။

(ခ) လျှပ်စစ်သွယ်တန်းအသုံးပြုမှုများနှင့် ဘွိုင်လာတပ်ဆင်အသုံးပြုမှုများကို လျှပ်စစ်ဥပဒေ၊ ဘွိုင်လာဥပဒေတို့နှင့်အညီ အသုံးမပြုမီ စစ်ဆေးဆောင်ရွက်ရန် လိုအပ်ပါသည်။

(ဂ) ပတ်ဝန်းကျင်ညစ်ညမ်းမှုမဖြစ်ပေါ်စေရေးအတွက် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန၏ စိစစ်ချက်ဖြင့် စနစ်တကျဆောင်ရွက်ရန်နှင့် မီးဘေးအန္တရာယ်ကြိုတင်ကာကွယ်ရေးအစီအမံများ ဆောင်ရွက်သွားရန် လိုအပ်ပါသည်။

(ဃ) ပုဂ္ဂလိကစက်မှုလုပ်ငန်းဥပဒေနှင့်အညီ စက်မှုမှတ်ပုံတင်ဆောင်ရွက်ရန် လိုအပ်ပါသည်။

(င) ကုန်ကြမ်းနှင့်ပူးတွဲသုံးပစ္စည်း တင်ပြထားချက် ဆီလျော်မှုရှိပါသည်။

(စ) CMP လုပ်ခနှုန်းထား တင်ပြထားချက်တွင် Jacket နှင့် Pants အတွက် လျော့နည်းနေသဖြင့် တိုးမြှင့်ပြင်ဆင်တင်ပြရန် လိုအပ်ပါသည်။

(ဆ) ဝန်ထမ်းအင်အားအရ စက်အင်အားများပြားနေ၍ ပြင်ဆင်တင်ပြရန်လိုအပ်ပြီး နှစ်အလိုက် ကုန်ထုတ်လုပ်မှုအား အနည်းငယ်တိုးမြှင့်ပြင်ဆင်ရန် လိုအပ်ပါသည်။

(ဇ) နှစ်အလိုက် ကုန်ထုတ်လုပ်မှုနှင့် ကုန်ကြမ်းနှင့်ပူးတွဲသုံးပစ္စည်း သုံးစွဲမှုနှုန်းအပေါ် မူတည်၍ နှစ်အလိုက် ကုန်ကြမ်းနှင့်ပူးတွဲသုံးပစ္စည်းလိုအပ်ချက်အား ပြင်ဆင်တင်ပြရန် လိုအပ်ပါသည်။

၃။ သို့ပါ၍ ZKG Asia Limited မှ CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း ဆောင်ရွက်ရာတွင် အထက်ပါလိုအပ်ချက်များအား ဖြည့်ဆည်းဆောင်ရွက်ပြီး နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှုဥပဒေ၊ ပုဂ္ဂလိကစက်မှုလုပ်ငန်းဥပဒေနှင့် တည်ဆဲဥပဒေလုပ်ထုံးလုပ်နည်းများနှင့်ညီညွတ်ပါက ဤဝန်ကြီးဌာနအနေဖြင့် ကန့်ကွက်ရန်မရှိပါကြောင်း ပြန်ကြားအပ်ပါသည်။

၁၆.၅.၁၄

ပြည်ထောင်စုဝန်ကြီး (ကိုယ်စား)
(လှမိုး၊ ရုံးအဖွဲ့မှူး)

မိတ္တူကို

စက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန

အထည်အလိပ်လုပ်ငန်း

နောက်ဆက်တွဲ-ဃ

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်အစိုးရ
CMP လုပ်ငန်းများ ကြီးကြပ်ရေးကော်မတီ

စာအမှတ်၊ ၃၄-အလ/ခွဲ(၂)၂၀၁၄(၄၂၁၆)
ရက် စွဲ၊ ၂၀၁၄ ခုနှစ်၊ မေလ ၁၂ ရက်

သို့

ဥက္ကဋ္ဌ
မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်

အကြောင်းအရာ။ **ZKG Asia Limited မှ CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်း လုပ်ငန်း ဆောင်ရွက်ခွင့်ပြုပါရန် တင်ပြလာခြင်း ကိစ္စ**

ရည် ညွှန်း ချက်။ မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်၏ ၂၉-၄-၂၀၁၄ ရက်စွဲပါ စာအမှတ်၊ ရက-၁/န - ၁၀၁၇/၂၀၁၄(၄၃၆၃)

၁။ ရန်ကုန်တိုင်းဒေသကြီး၊ မင်္ဂလာဒုံ ဥယျာဉ်မြို့နယ်၊ ရန်ကုန်စက်မှုဇုန်၊ ရွှေမြို့တော် စေတီလမ်း၊ မြေကွက်အမှတ် (၅၀) တွင် ဟောင်ကောင် Top Crown Industries Limited က ၅၀ % နှင့် Chater Limited က ၅၀% ထည့်ဝင်၍ မြန်မာနိုင်ငံတွင် ZKG Asia Limited တည်ထောင်ပြီး ရာခိုင်နှုန်းပြည့် နိုင်ငံခြား ရင်းနှီးမြှုပ်နှံမှုနှင့် CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်း လုပ်ငန်း ဆောင်ရွက်ရန် တင်ပြမှုအပေါ် CMP လုပ်ငန်းများ မြေပြင် ကွင်းဆင်း စစ်ဆေးရေးအဖွဲ့ ရုံးလုပ်ငန်း အဖွဲ့ခေါင်းဆောင်၊ အလုပ်ရုံနှင့် အလုပ်သမား ဥပဒေ စစ်ဆေးရေး ဦးစီးဌာန၊ လက်ထောက် ညွှန်ကြားရေးမှူး ဦးကျော်ကျော်ထွန်း သည် အထည်ချုပ် စက်ရုံ အမှတ်(၁၇) စက်ရုံမှူး ဒေါ်လှသီတာ နှင့်အတူ ၆-၅-၂၀၁၄ ရက်နေ့ (၁၄း၃၀) နာရီတွင် တာဝန်ခံများကို တွေ့ဆုံ မေးမြန်းခဲ့ပါသည်။

၂။ ZKG Asia Limited ၏အဆိုပြုချက်ကို အောက်ပါအတိုင်း စိစစ်တင်ပြ အပ်ပါသည် -

(က) **C.M.P ကုန်ကြမ်း လိုအပ်ချက်နှင့်ကုန်ချောထုတ်လုပ်မှု အချိုးအစား ညီညွတ်မှု ရှိ/မရှိ**

ချုပ်ထည်	**တစ်ထည် လိုအပ်ချက်နှုန်းထား**	**ကိုက်ညီမှုရှိ/မရှိ**
1.Jacket	2.5 yds/ pc	ကိုက်ညီမှုရှိပါသည်။
2. Pant	1.5 yds/ pc	။
3.Outdoor Accessories of all Kind		
(a) Sock	0.25 yds/ pc	။
(b) Sleepingbag	2.0 yds/ pc	။
(c) Hat	0.25 yds/ pc	။
(d) Head mask	0.25 yds/ pc	။
(e) Glove	0.40 yds/ pc	။

အဆိုပြုချက်ပါ တစ်နှစ်လုံးစာ ကုန်ကြမ်းလိုအပ်ချက်မှာ တစ်ထည်လိုအပ်ချက်နှုန်းထား၊ တားမြစ်သတ်မှတ်စံနှုန်းထားများနှင့် ကိုက်ညီမှု ရှိကြောင်းတွေ့ရှိရပါသည် -

ချုပ်ထည်	အဆိုပြု ထုတ်လုပ်မှု အရေအတွက်	လိုအပ်မည့် ကုန်ကြမ်း အရေ အတွက်
1.Jacket	55000 Dzs	1650000 yds
2. Pant	55000 Dzs	990000 yds
3.Outdoor Accessories of all Kind		
(a) Sock	7000 Dzs	21000 yds
(b) Sleepin gbag	7000 Dzs	168000 yds
(c) Hat	7000 Dzs	21000 yds
(d) Head mask	7000 Dzs	21000 yds
(e)Glove	14000 Dzs	67200 yds

အဆိုပြုချက်ပါ ပစ္စည်းအားလုံး ထုတ်လုပ်မည်ဆိုပါက စုစုပေါင်းကုန်ကြမ်း 2938200 yds ကုန်ကျ မည်ဖြစ်၍ အဆိုပြုချက်ပါ ကုန်ကြမ်းနှင့် ကိုက်ညီမှု ရှိပါသည်။

(ခ) **C.M.Pလက်ခနှုန်းထားများ တင်ပြမှုဆီလျော်မှုရှိ/မရှိ**

အဆိုပြုချက်ပါ C.M.P လက်ခ နှုန်းထားများကို လက်ရှိရရှိသည့် လက်ခနှုန်းထားများ နှင့် နှိုင်းယှဥ်ရာတွင် အနည်းငယ်လျော့နေကြောင်း တွေ့ရှိရ၍ ပြင်ဆင်တင်ပြ သင့်ပါသည် -

ချုပ်ထည်	အဆိုပြုချက်ပါ CMP လက်ခနှုန်းထား	အထည်ချုပ်အသင်း၏ လက်ရှိ CMPလက်ခနှုန်းထား
1.Jacket	13.0 US$/Dz	16-18 US$/Dz
2. Pant	11.0 US$/Dz	10-12 US$/Dz
3.Outdoor Accessories of all Kind		
(a) Sock	2.25 US$/Dz	3-3.5 US$/Dz
(b) Sleepin gbag	2.25 US$/Dz	4-4.5 US$/Dz
(c) Hat	2.25 US$/Dz	3-3.5 US$/Dz
(d) Head mask	2.25 US$/Dz	3-3.5 US$/Dz
(e) Glove	2.25 US$/Dz	3-3.5 US$/Dz

(ဂ) **နှစ်စဥ်ထုတ်လုပ်မှု၊ စက်အင်အား၊ လူအင်အားအချိုးအစား ညီမျှမှု ရှိ/မရှိ**

အဆိုပြုချက်ပါ ထုတ်လုပ်မည့် ပစ္စည်းများမှာ Jacket, Pant, Socks, Sleepin gbag, Hats, Head masks, Gloves တို့ဖြစ်ပြီး Single Needle Sewing M/C (၂၁၃၈)လုံး၊ Double Needle M/C (၁၉၈)လုံး၊ Overlock M/C (၃၅၅)လုံးဖြင့်

Skilled Workers (၆၀၀)ဦး၊ Unskilled Workers(၅၀)ဦး ဖြစ်ပြီး Export ဖြစ်၍QC , PQC ခန့်ထားသင့်ပါသည်။ စက်အလုံးရေ များနေပြီးလူဦးရေ လွန်စွာနည်းနေသဖြင့် အချိုးအစား ညီမျှမှု မရှိ၍ စက်အားလုံး မလည်ပတ်နိုင်၍ ပြင်ဆင်တင်ပြသင့်ပါသည် ။ လူဦးရေအား အခြေခံ၍ တွက်ချက်မည်ဆိုပါက -

ချုပ်ထည်	ကုန်ထုတ် စက်	တစ်ရက် ထုတ်လုပ်နိုင်မှု	တစ်နှစ်ထုတ်လုပ်မှု (၃၁၀) ရက်
1.Jacket	(၁) လိုင်း	900 Pcs/10hour	23250 Dz
2. Pant	(၁) လိုင်း	1500 Pcs/10hour	38750 Dz
3.Outdoor Accessories of all Kind			
(a) Sock	(၁) လိုင်း	300 Pcs/10hour	7750 Dz
(b) Sleepingbag	(၁) လိုင်း	240 Pcs/10hour	6200 Dz
(c) Hat	(၁) လိုင်း	300 Pcs/10hour	7750 Dz
(d) Head mask	(၁) လိုင်း	300 Pcs/10hour	7750 Dz
(e) Glove	(၁) လိုင်း	300 Pcs/10hour	7750 Dz

အဆိုပြုချက်ပါ စက်အင်အား ထုတ်လုပ်ပါက အမှတ်စဉ်(၁)နှင့် (၂)တို့မှာ ထုတ်လုပ်နိုင်မှုမရှိကြောင်း တွေ့ရှိရသဖြင့် လူအင်အား ထပ်မံခန့်ထားမှသာ ထုတ်လုပ်နိုင်မည်ဖြစ်ပြီး ထုတ်လုပ်မှု အတိုင်းသာ ကုန်ကြမ်းတင်သွင်း သင့်ပါသည် -

ချုပ်ထည်	အဆိုပြု ထုတ်လုပ်မှု အရေအတွက်	တစ်နှစ်ထုတ်လုပ်နိုင်မှု ပမာဏ
1.Jacket	55000 Dzs	23250-23500 Dzs
2. Pant	55000 Dzs	38750- 39000Dzs
3.Outdoor Accessories of all Kind		
(a) Sock	7000 Dzs	7750-8000 Dzs
(b) Sleepingbag	7000 Dzs	6200- 6500 Dzs
(c) Hat	7000 Dzs	7750- 8000 Dzs
(d) Head mask	7000 Dzs	7750- 8000 Dzs
(e) Glove	14000 Dzs	7750- 8000 Dzs

၃။ သို့ဖြစ်၍ ZKG Asia Limited ကို CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်း လုပ်ငန်း ခွင့်ပြုသင့်ပြီး မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်၏ ခွင့်ပြုချက်ရရှိပါက အလုပ်အကိုင်အခွင့်အလမ်းများ ပိုမိုရရှိစေပြီး ဆင်းရဲနွမ်းပါးမှုလျော့ချရေးကို အထောက်အကူပြုနိုင်မည်ဖြစ်သဖြင့် အားပေး ဆောင်ရွက်သင့်ပါကြောင်း အစီရင်ခံတင်ပြအပ်ပါသည်။

ဥက္ကဋ္ဌ(ကိုယ်စား)
(မောင်မောင်ကျော်၊ ရုံးအဖွဲ့မှူး)
(အလုပ်သမား၊အလုပ်အကိုင်နှင့်လူမှုဖူလုံရေးဝန်ကြီးဌာန)

မိတ္တူကို

အလုပ်သမားညွှန်ကြားရေးဦးစီးဌာန
(CMP လုပ်ငန်းများ စစ်ဆေးရေးဆပ်ကော်မတီ)
အလုပ်ရုံနှင့်အလုပ်သမားဥပဒေစစ်ဆေးရေးဦးစီးဌာန
(CMP လုပ်ငန်းများ မြေပြင်ကွင်းဆင်းစစ်ဆေးရေးအဖွဲ့)
ZKG Asia Limited
ရုံးလက်ခံ
မျှောစာတွဲ

TO ALL TO WHOM these presents shall come, I, **LEE CHEE WAH WILFRED** NOTARY PUBLIC, duly authorised admitted and sworn residing and practising in Hong Kong, **DO HEREBY CERTIFY** that the annexed copies are true copies of :

(1) a letter of 3 December 2013 issued by HANG SENG BANK;

(2) Certificate of Business Registration;

(3) Certificate of Incorporation;

(4) Notification of Change of Secretary and Director (Appointment/Cessation);

(5) Notification of First Secretary and Director;

(6) Annual Return of 3rd December 2012

of TOP CROWN INDUSTRIES LIMITED (維冠實業有限公司) the original of which I have seen.

IN TESTIMONY whereof I have hereunder subscribed my name and affixed my Seal of Office this 6th day of December Two thousand and Thirteen.

Lee Chee Wah Wilfred
Notary Public
701 World-Wide House
19 Des Voeux Road Central
Hong Kong

My commission is for life.

For the contents of the documents I assume no responsibility.

行

_ BANK

理財創富 專注為你

Managing wealth for you, with you.

_ate & Confidential

To Whom It May Concern

3 December 2013

Dear Sir/Madam

TOP CROWN INDUSTRIES LIMITED

At the request of our above-named customer, we are pleased to furnish you with a banker's reference as follows:

Top Crown Industries Limited has established banking relationship with us since June 2006. The company maintains HK dollar current/savings accounts and other deposit account with us. Operation of the accounts has been proper, aggregating a moderate seven-figure credit balance at present (in terms of local currency).

Kindly note that the above information is given in strict confidence and without any responsibility, howsoever arising, on the part of this Bank or its officers.

Yours faithfully
For HANG SENG BANK LTD

HANG SENG BANK LIMITED WHOLESALE CREDIT RISK DEPARTMENT HEAD OFFICE

LEE Chiu-hung
Credit Information Manager
Wholesale Credit Risk Department

LCH/rc

恒生銀行有限公司 Hang Seng Bank Limited
香港中環德輔道中83號 83 Des Voeux Road Central Hong Kong

24-R10 sht 08/13 HS-R

TO ALL TO WHOM these presents shall come, I, **LEE CHEE WAH WILFRED**

NOTARY PUBLIC, duly authorised admitted and sworn residing and practising in Hong Kong, **DO HEREBY CERTIFY** that the annexed copies are true copies of :

(1) a letter of 3 December 2013 issued by HANG SENG BANK;

(2) Certificate of Business Registration;

(3) Certificate of Incorporation;

(4) Notification of First Secretary and Director;

(5) Notification of Change of Secretary and Director (Appointment/Cessation);

(6) Return of allotments;

(7) Annual Return of 29th May 2013

of CHATER LIMITED (全泰有限公司) the original of which I have seen.

IN TESTIMONY whereof I have hereunder subscribed my name and affixed my Seal of Office this 6th day of December Two thousand and Thirteen.

Lee Chee Wah Wilfred
Notary Public
701 World-Wide House
19 Des Voeux Road Central
Hong Kong

My commission is for life.

For the contents of the documents I assume no responsibility.

行
BANK

理財創富 專注為你

Managing wealth for you, with you.

& Confidential

Whom It May Concern

3 December 2013

Dear Sir/Madam

CHATER LIMITED

At the request of our above-named customer, we are pleased to furnish you with a banker's reference as follows:

Chater Limited has established banking relationship with us since March 2009. The company maintains HK dollar current/savings accounts and other deposit accounts with us. Operation of the accounts has been proper, aggregating a seven-figure credit balance at present (in terms of local currency).

Kindly note that the above information is given in strict confidence and without any responsibility, howsoever arising, on the part of this Bank or its officers.

Yours faithfully
For HANG SENG BANK LTD

HANG SENG BANK LIMITED
WHOLESALE CREDIT RISK DEPARTMENT
HEAD OFFICE

LEE Chiu-hung
Credit Information Manager
Wholesale Credit Risk Department

LCH/rc

Private & Confidential

To Whom It May Concern

3 December 2013

Dear Sir/Madam

TOP CROWN INDUSTRIES LIMITED

At the request of our above-named customer, we are pleased to furnish you with a banker's reference as follows:

Top Crown Industries Limited has established banking relationship with us since June 2006. The company maintains HK dollar current/savings accounts and other deposit account with us. Operation of the accounts has been proper, aggregating a moderate seven-figure credit balance at present (in terms of local currency).

Kindly note that the above information is given in strict confidence and without any responsibility, howsoever arising, on the part of this Bank or its officers.

Yours faithfully
For HANG SENG BANK LTD

HANG SENG BANK LIMITED
WHOLESALE CREDIT RISK DEPARTMENT
HEAD OFFICE

LEE Chiu-hung
Credit Information Manager
Wholesale Credit Risk Department

LCH/rc

恒生銀行
HANG SENG BANK

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3 December 2013

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For HANG SENG BANK LTD

HANG SENG BANK LIMITED
WHOLESALE CREDIT RISK DEPARTMENT
HEAD OFFICE

LEE Chiu-hung
Credit Information Manager
Wholesale Credit Risk Department

LCH/rc

THE REPUBLIC OF THE UNION OF MYANMAR
MYANMAR INVESTMENT COMMISSION
No.(1), Thitsar Road, Yankin Township, Yangon

Republic of the Union of Myanmar Sr.No. Date Myanmar Investment Commission

Our ref : DICA-3/FI-1017/2014(127-d)
Date : 23rd August 2014

Tel: 01-658128
Fax: 01-658136

Subject: Decision of the Myanmar Investment Commission on the Proposal for "Manufacturing of Garments on CMP Basis" under the name of "ZKG Asia Ltd."

Reference: ZKG Asia Ltd. Letter dated (25-4-2014).

1. The Myanmar Investment Commission, at its meeting (20/2014) held on (1-8-2014) had approved that the proposal for investment in "Manufacturing of Garments on CMP Basis" under the name of "ZKG Asia Ltd." submitted by Top Crown Industries (50 %) and Chater Limiter (50 %) from Hong Kong as a wholly foreign owned investment.

2. Hence, the "Permit" is herewith issued in accordance with Chapter VII, section 13(b) of the Foreign Investment Law and Chapter VIII, Rule 49 of the Foreign Investment Rules relating to the Foreign Investment Law. Terms and conditions to the "Permit" are stated in the following paragraphs.

3. The permitted duration of the project shall be 50 (fifty) years period.

4. The Lease term for the land and building lease agreement between U Soe Soe @ U Soe Soe Than and ZKG Asia Ltd. shall be 12 (Twelve) years extendable to 10 (ten) years extension to be done and another 8 (eight) years upon mutual agreement by the lessor and the lessee. The annual rent for the land and building shall be Kyats 372,000,000 (Kyats three hundred and seventy-two million only) calculated at the rate of kyats 45961.56 per square meter per year of the land measuring 8093.72 square meter (2.01 acres).

5. In issuing this "Permit," the Commission has granted, the followings exemptions and reliefs as per Chapter XII, section 27 (a), (h), (i) and (k) of the Foreign Investment Law. Other exemptions and reliefs under section 27 shall have to be applied upon the actual performance of the project;

(a) As per section 27(a), income tax exemption for a period of five consecutive years including the year of commencement on commercial production;

(b) As per section 27(h), exemption or relief from customs duty or other internal taxes or both on machinery, equipment, instruments, machinery components, spare parts and materials used in the business, which are imported as they are actually required for use during the period of construction of business;

(c) As per section 27(i), exemption or relief from customs duty or other internal taxes or both on raw materials imported for production for the first three-year after the completion of construction of business;

(d) As per section 27(k), exemption or relief from commercial tax on the goods produced for export.

6. ZKG Asia Ltd. shall have to sign the Land and Building Lease Agreement with U Soe Soe @ U Soe SoeThan . After signing the Agreement, (5) copies shall have to be forwarded to the Commission.

7. ZKG Asia Ltd. in consultation with the Department of Company Registration, Directorate of Investment and Company Administration shall have to be registered. After registration, (5) copies each of Certificate of Incorporation and Memorandum of Association and Articles of Association shall have to be forwarded to the Commission.

8. ZKG Asia Ltd. shall use its best efforts for timely realization of works stated in the Proposal. If none of such works has been commenced within one year from the date of issue of this "Permit" it shall become null and void.

9. ZKG Asia Ltd. has to abide by Chapter X, Rule 58 and 59 of the Foreign Investment Rules for construction period.

10. As per Chapter X, Rule 61 of the Foreign Investment Rules extension of construction period shall not be allowed more than twice except it is due to unavoidable events such as natural disasters, instabilities, riots, strikes, emergency of State condition, insurgency and outbreak of wars.

11. As per Chapter X, Rule 63 of the Foreign Investment Rules, if ZKG Asia Ltd. cannot construct completely in time during the construction period or extension period, the Commission will have to withdraw the permit issued to the investor and there is no refund for the expenses of the project.

12. The commercial date of operation shall be reported to the Commission.

13. ZKG Asia Ltd. shall endeavour to meet the targets for production and export stated in the proposal as the minimum target.

14. The Commission approves periodical appointments of foreign experts and technicians from abroad as per proposal in accordance with Chapter XI, section 24 and section 25 of the Foreign Investment Law and the investor has to follow the existing Labour Laws for the recruitment of staff and labour in accordance with Chapter XIII, Rule 84 of the Foreign Investment Rules.

15. In order to evaluate foreign capital and for the purpose of its registration in accordance with the provisions under Chapter XV, section 37 of the Foreign Investment Law, it is compulsory to report as early as possible in the following manner:-

(a) the amount of foreign currency brought into Myanmar, attached with the necessary documents issued by the respective bank where the account is opened and defined under Chapter XVI, Rule 134 and 135 of the Foreign Investment Rules;

(b) the detailed lists of the type and value of foreign capital defined under Chapter I, section 2 (i) of the Foreign Investment Law, other than foreign currency.

16. ZKG Asia Ltd. brings in foreign capital defined under Chapter I, section 2 (i) of the Foreign Investment Law, other than foreign currency in the manner stated in paragraph 15(b) mentioned above, the Inspection Certificate endorsed and issued by an internationally recognized Inspection Firm with regard to quantity, quality and price of imported materials shall have to be attached.

17. ZKG Asia Ltd. has the right to make account transfer and expend the foreign currency from his bank account in accordance with Chapter XVI, Rule 136 and for transfer of local currency generated from the business to the local currency account opened at the bank by a citizen or a citizen-owned business in the State and right to transfer back the equivalent amount of foreign currency from the foreign currency bank account of citizen or citizen-owned business by submitting the sufficient document in accordance with Chapter XVII, Rule 145 of the Foreign Investment Rules.

18. ZKG Asia Ltd. shall report to the Commission for any alteration in the physical and financial plan of the project. Cost over run, over and above the

investment amount pledged in both local and foreign currency shall have to be reported as early as possible.

19. ZKG Asia Ltd. shall be responsible for the preservation of the environment at and around the area of the project site. In addition to this, it shall carry out as per instructions made by Ministry of Environmental Conservation and Forestry in which to conduct an Environmental Management Plan (EMP) which describe the measure to be taken for preventing, mitigation and monitoring significant environmental impacts resulting from the implementation and operation of proposed project or business or activity has to be prepared and submitted and to perform activities in accordance with this EMP and to abide by the environmental policy, Environmental Conservation Law and other environmental related rules and procedures.

20. ZKG Asia Ltd. shall contribute 1 % of the annual net profit for Corporate Social Responsibility (CSR) activities in Myanmar.

21. After getting permit from Myanmar Investment Commission, ZKG Asia Ltd. shall have to be registered at the Directorate of Industrial Supervision and Inspection.

22. ZKG Asia Ltd. shall have to abide by the Fire Services Department's rules, regulations, directives and instructions. Moreover, fire prevention measures shall have to undertake such as water storage tank, fire extinguishers and provide training to use the fire fighting equipment and to appoint fire safety officer.

23. Payment of principal and interest of the loan (if any) as well as payment for import of raw materials and spare parts etc., shall be made from export earning (CMP charges) of ZKG Asia Ltd. Commercial tax shall be levied on sales of reject items.

24. ZKG Asia Ltd. in consultation with Myanma Insurance, shall effect such types of insurance defined under Chapter XII, Rule 79 and 80 of the Foreign Investment Rules.

(Zay Yar Aung)
Chairman

ZKG Asia Ltd.

cc:
1. Office of the Union Government of the Republic of the Union of Myanmar
2. Office of the Bago Region Government
3. Ministry of National Planning and Economic Development
4. Ministry of Finance
5. Ministry of Commerce
6. Ministry of Industry
7. Ministry of Foreign Affairs
8. Ministry of Home Affairs
9. Ministry of Immigration and Population
10. Ministry of Labour, Employment and Social Security
11. Ministry of Environmental Conservation and Forestry
12. Ministry of Electric Power
13. Chairman, CMP Enterprise Supervision Committee
14. Director General, Directorate of Investment and Company Administration
15. Director General, Directorate of Human Settlement and Housing Development
16. Director General, Directorate of Industrial Supervision and Inspection
17. Director General, Customs Department
18. Director General, Internal Revenue Department
19. Managing Director, Myanma Foreign Trade Bank
20. Managing Director, Myanma Investment and Commercial Bank
21. Managing Director, Myanma Insurance
22. Managing Director, Myanma Electric Power Enterprise
23. Director General, Directorate of Trade
24. Director General, Immigration and National Registration Department
25. Director General, Directorate of Labour
26. Director General, Department of Environmental Conservation
27. Director General, Fire Services Department
28. Chairman, Republic of the Union of Myanmar Federation of Chambers of Commerce and Industry (UMFCCI)
29. Chairman, Myanma Economic Holdings Limited

Form (1)

Proposal Form of Investor/Promoter for the investment to be made in the Republic of the Union of Myanmar

To

Chairman

Myanmar Investment Commission

Reference No.

Date

I do apply for the permission to make investment in the Republic of the Union of Myanmar in accordance with the Foreign Investment Law by furnishing the following particulars:-

1 The Investor's or Promoter's

(a)	Name	Mr. Lee Kwok Sun, Thomas (Please see Attachment – 1)
(b)	Father's Name	Mr. Lee
(c)	ID No./Passport No.	PP. NO – K – 02504889
(d)	Citizenship	Chinese
(e)	Address	
	(i) Address in Myanmar	-
	(ii) Residence abroad	Rm -3708, Asia Trade Centre, 79 Lei Muk Road, Kwai Chung, NT, Hong Kong
(f)	Name of principle organization	Chater Limited (Please see Attachment – 4)
(g)	Type of business	Trading and investment holding
(h)	Principle Company's Address	Rm -3708, Asia Trade Centre, 79 Lei Muk Road, Kwai Chung, New Territories, Hong Kong

2 If the investment is formed under joint-venture, partners':-

(a)	Name	Mrs. Chow Pui Fong, Dora (Please see Attachment – 2)
(b)	Father's name	Mr. Chow
(c)	ID/NRC No./Passport No.	PP. NO – K – 02504887
(d)	Citizenship	Chinese

(e)	Address	
	(i) Address in Myanmar	-
	(ii) Residence abroad	Rm.3708, Asia Trade Centre, 79 Lei Muk Road, Kwai Chungm , NT, Hong Kong
(f)	Parent Company	Top Crown Industies Limited (Please see Attachment – 5)
(g)	Type of business	Trading and investment holding
(h)	Parent Company's Address	Rm -3708, Asia Trade Centre, 79 Lei Muk Road, Kwai Chungm , NT, Hong Kong

Remarks : The following documents need to attach according to the above paragraph (1) and (2):-

(i) Company Registration Certificate (Copy);
(ii) National Identification Card (Copy) and Passport (Copy);
(iii) Evidences about the business and financial conditions of the participants of the proposed investment business.

3 Type of proposed investment business-

(a)	Manufacturing	Production of garments on CMP Basis
(b)	Services Business related with Manufacturing	-
(c)	Service	-
(d)	Others	-

Remarks : Expressions about the nature of business with regard to the above paragraph (3)

4 Type of business organization to be formed:-

(a)	One hundred percent	- ZKG ASIA LIMITED
(b)	Joint Venture:	
	(i) Foreigner and Citizen	-
	(ii) Foreigner and Government Department / Organization	-
(c)	By Contract based:	
	(i) Foreigner and Citizen	-
	(ii) Foreigner and Government Department / Organization	-

Remarks : The following information needs to attach for the above Paragraph (4):-

(i) Share ratio for the authorized capital from abroad and local, names, citizenships, addresses and occupations of the directors;
(ii) Joint Venture Agreement (Draft) and recommendation of Attorney General's Office if the investment is related with the State;
(iii) Contract (Agreement) (Draft)

5 Information related to Company incorporation

(a)	Authorized capital	US$ 2 million
(b)	Types of shares	Ordinary shares
(c)	Share capital to be subscribed by the shareholders	US$ 100 @ 20,000 Shares
		(Please see Attachment – 6)

Remarks: Memorandum of Association and Articles of Association of the Company shall be submitted with regard to above paragraph 5.

6 Particulars relating to Capital of the investment business

		US$ (million)	Kyat(million)
(a)	Amount /Percentage of Local capital to be contributed	-	-
(b)	Amount /Percentage of Foreign capital to be contributed	1.8264	1789.88
	Total	1.8264	1789.88

(c)	(Annual/Period) of proposed capital to be brought in	Within three years
		from the date of approval.
		(Please see Schedule – 10)
(d)	Last date of capital brought in	-
(e)	Proposed duration of investment	Fifty (50) years
(f)	Commencement of construction	Within 3 months from the date
		of approval.
(g)	Construction period	Within 6 months

Remarks: Describe with annexure if it is required for the above Para 6 (c).

7 Details of foreign capital to be brought in -

		US$ (million)	Kyat(million)
(a)	Foreign Currency	0.7362	721.48

(Type of currency and amount)		
(b) Machinery and Equipment and Value (to enclose detail list)	1.0902	1068.40
(c) List of initial raw material and value (to enclose detail list)	-	-
(d) Value of license, intellectual property, industrial design, trade mark, patent rights	-	-
(e) Value of technical know-how	-	-
(f) Others	-	-
Total	1.8264	1789.88

Exchange rate – 1 US$ = 980 Kyat

Remarks: The evidence of permission shall be submitted for the above Para 7 (d) and (e).

8 Details list of Paid up capital to be brought in from local -

	US$ (million)	Kyat(million)
(a) Amount	-	-
(b) Value of machinery and equipment (to enclose detail list)	-	-
(c) Rental rate for building/land	-	-
(d) Cost of building and assets	-	-
(e) Value of furniture and assets (to enclose detail list)	-	-
(f) Value of initial raw material requirement (to enclose detail list)	-	-
(g) Others	-	-
Total	-	-

9 Particulars about the investment business -

(a) Investment Location(s)/Place — No.(50), Shwe Myodaw Zaydi Lan, Yangon. Industry Zone (Mingalardon Garden Park) Yangon

(b) Type and area requirement for land or land and building

(i) Location — No.(50), Shwe Myodaw Zaydi Lan, Yangon. Industry Zone

			(Mingalardon Garden Park), Yangon
(ii)	Number of Land/Building and area		Approx. 2acres of land (Please see Attachment - 7)
(iii)	Owner of the Land		
	(aa)	Name/Company/Department	Mr. Soe Soe @ Mr. Soe Soe Than Arr Man Thit Automobile Co.,Ltd.
	(bb)	National Registration No.	12/BaHaNa(N)083895
	(cc)	Address	No.27, 4th Lane Kan Road, 10th Ward, Hlaing Township, Yangon
(iv)	Type of Land		Industry Zone
(v)	Period of Land lease contract		Twelve (12)years + Ten (10)years + Ten (10)years
(vi)	Lease period	From 01-3-2014	To 28-02-2026 (12) Years
(vii)	Lease Rate		-
	(aa)	Land	31,000,000Kyats per month
	(bb)	Building	-
(viii)	Ward		Yangon Industry Zone
(ix)	Township		Mingalardon Township
(x)	State/Region		Yangon.
(xi)	Lessee		
	(aa)	Name/Name of Company/Department	Mrs. Chow Pui Fong Dora
	(bb)	Father's Name	Mr. Chow
	(cc)	Citizenship	Chinese
	(dd)	Passport No.	K02504887
	(ee)	Residence Address	Rm.3708, Asia Trade Centre, 79 Lei Muk Road, Kwai Chung, N.T, Hong Kong

Remarks: Following particulars have to enclosed for above Para 9 (b)

(i) To enclose land map, land ownership and ownership evidences:

(ii) Draft land lease agreement, recommendation from Union Attorney General Office if the land is related to the State;

(c) Requirement of building to be constructed;

(i)	Type / No. of Building	(Please see Attachment –7&8)
(ii)	Area	Approx. 2 acres

(d) Product to be produced / Service

(1)	Name of Product		Please see Schedule (6)
(2)	Estimate amount to be produced annually		Please see Schedule (6)
(3)	Type of Service		Production of garments on CMP Basis
(4)	Estimate value of Service annually		Please see Schedule (7)

Remarks: Detail list shall be enclosed with regard to the above Para 9 (d).

(e) Annual requirement of materials/raw materials — Please see Schedule (5)

Remarks: According to the above Para 9 (e) detail list of products in terms of type of products, quantity, value, technical specifications for the production shall be listed and enclosed

(f)	Production System	Production of garments on CMP Basis
(g)	Technical Know-how	With modernized sewing machines and equipments
(h)	Sales System	Export in terms of CMP basis
		Export Sale 100%
(i)	Annual Fuel Requirement	Diesel 12,900 gallon per annum
	(to prescribe type and quantity)	Petrol 10,000 gallon per annum
(j)	Annual electricity requirement	1million kWh per annum
(k)	Annual water requirement	10 million gals
	(to prescribe daily requirement, if any)	833,300 gals daily

10 Detail information about financial standing -

(a)	Name / Company Name	Top Crown Industries Limited Chater Limited
(b)	National Registration No. / Passport No.	35641106-000-12-13-2 50086301-000-05-13-6
(c)	Bank Account No.	(Please see Attachment – 9 & 10)

Remarks: To enclose bank statement from resident country or annual audit report of the principle company with regard to the above Para 10.

11 Number of personnel required for the proposed economic activity:-

		No.	%
(a)	Local personnel	1329	99
(b)	Foreign experts and technicians	9	1
	(Engineer, QC, Buyer, Management, etc. based on the nature of business and required period)		

Remarks: As per Para 11 the following information shall be enclosed: -

(i) No. of employees, occupations, salary rates, etc.;

(ii) Social security and welfare arrangement for employee / labour;

(iii) Family accompany with foreign employee;

12 Particulars relating to economic justification-

		Foreign Currency	Equivalent Estimated Kyat
(a)	Annual income	Please see Schedule (7)	
(b)	Annual expenditure	Please see Schedule (8)	
(c)	Annual net profit	Please see Schedule (8)	
(d)	Yearly investments	Please see Schedule (10)	
(e)	Recoupment period	Please see Schedule (13)	
(f)	Other benefits	-	

(To enclose detail calculation)

13 Evaluation of environmental impact:-

(a) Organization for evaluation of environmental assessment;

(b) Duration of the evaluation for environmental assessment;

(c) Compensation programme for environmental damages (draft environmental law);

(d) Water purification system and waste water treatment system;

(e) Garbage management system;

(f) System for storage of chemicals;

14 Evaluation on Social-economic assessments:-

(a) Organization for evaluation of social impact assessments;

(b) Duration of the evaluation for social impact assessments;

(c) Corporate Social Responsibility programme;

15 The above mentioned information and documents enclosed herewith this application are true and correct as per my understanding, checked by myself and submitted with signed hereunder.

16 Supporting documents for the proposal-

The following documents are attached for the proposal investment

(1) Copy of Mr. Lee Kwok Sun's Passport

(2) Copy of Mrs. Chow Pui Fong's Passport

(3) Copy of Ms. Wong Sui Ping's Passport

(4) Copy of Business Registration Certificate of Chater Limited

(5) Copy of Business Registration Certificate of Top Crown Industries Limited

(6) Draft of Memorandum of Association and Articles of Association Copy

(7) Copy of Location Map and Land record

(8) Existing Building and Structure List

(9) References for Financial Standing of Top Crown Industries Limited

(10) References for Financial Standing of Chater Limited

(11) Undertaking Letter on Environmental Impact Assessment

(12) Undertaking Letter on Social Impact Assessment

(13) Undertaking Letter on Disaster Response Management System

(14) Undertaking Letter on Social Welfare Arrangement of Employees

(15) Letter of Award

Signature ....

Name ....

Occupation ....

ဤကုမ္ပဏီ မှတ်ပုံတင် လက်မှတ်(ယာယီ)သည် မှတ်ပုံတင်ရက်စွဲ (၂၉–၈–၂၀၁၄) မှ (၂၈–၂–၂၀၁၅) ရက်နေ့အထိ (၆)လသက်တမ်း အတွက်သာ ဖြစ်သည်။ ယာယီသက်တမ်း မကုန်ဆုံးမီ အမြဲတမ်းမှတ်ပုံတင် လက်မှတ် (မူရင်း)နှင့် လဲလှယ်ရမည်ဖြစ်ပါသည်။

ညွှန်ကြားရေးမှူးချုပ်(ကိုယ်စား)
(သီတာအောင်၊ဒုတိယညွှန်ကြားရေးမှူး)

15

16

Issued Date: 11 SEP 2014

Signature ....

Name ....

Occupation

MINISTRY OF NATIONAL PLANNING AND ECON[OMIC] DEVELOPMENT
COMPANIES REGISTRATION

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်အစိုးရ

အမျိုးသားစီမံကိန်းနှင့် စီးပွားရေးဖွံ့ဖြိုးတိုးတက်မှုဝန်ကြီးဌာန

ကုမ္ပဏီမှတ်ပုံတင်လက်မှတ် (ယာယီ)

အမှတ် ၅၇၄ အက်ဖ်စီ / ၂၀၁၄-၂၀၁၅

မြန်မာနိုင်ငံ ကုမ္ပဏီများ အက်ဥပဒေအရ ......ဇက် ကေ ဂျီ အေးရှား လီမိတက်...................

.... အား ပေးရန်တာဝန် ကန့်သတ်ထားသော လီမိတက်

ကုမ္ပဏီအဖြစ် ၂၀၁၄ နှစ်၊ .....ဩဂုတ်..... လ၊ ၂၉ ရက်နေ့တွင် ယာယီမှတ်ပုံတင်ခွင့်

ပြုလိုက်သည်။

ညွှန်ကြားရေးမှူးချုပ်(ကိုယ်စား)

(နီလာမူ၊ ဒုတိယညွှန်ကြားရေးမှူး)

ရင်းနှီးမြှုပ်နှံမှုနှင့်ကုမ္ပဏီများညွှန်ကြားမှုဦးစီးဌာန

THE GOVERNMENT OF THE REPUBLIC OF THE UNION OF MYANMAR

MINISTRY OF NATIONAL PLANNING AND ECONOMIC DEVELOPMENT

CERTIFICATE OF INCORPORATION (TEMPORARY)

NO. ....574 FC..........of 2014-2015

I hereby certify that ZKG ASIA LIMITED. .... is this day incorporated under the Myanmar Companies Act and that the company is Limited.

Temporarily given under my hand at Nay Pyi Taw this TWENTY NINTH day of AUGUST, TWO THOUSAND AND FOURTEEN

For Director General

(Nilar Mu- Deputy Director)

Directorate of Investment and Company Administration

Presentation of the Proposal for ZKG Asia Ltd.

Myanma Investment Commission
Yangon
July 2014

Company Name and location

ZKG Asia Ltd.

No.(50), Shwe Myodaw Zaydi
Lan, Yangon. Industry Zone
(Mingalardon Garden Park) Yangon



ZKG ASIA Limited

Director list

- Mr. Lee Kwok Sun, Thomas (PP No. K - 02504889) Hong Kong, China
- Mrs. Chow Pui Fong, Dora (PP No. K - 02504887) Hong Kong, China
- Ms. Wong Sui Ping (PP No. HA - 2013234) Hong Kong, China

Type of Products, Quantity and Price

- Jacket of all kinds
- Pant of all kinds
- Outdoor Accessories of all kinds
    - Socks
    - Sleeping bags
    - Hats
    - Head masks
    - Gloves



ZKG ASIA Limited
Schedule Annexed to Proposal under Foreign Investment Law
Estimated Production Quantity





Description	A/U	Estimated production Capacity (based on 300 days per year)									
		Y+1	Y+2	Y+3	Y+4	Y+5	Y+6	Y+7	Y+8	Y+9	Y+10
Production / Sale											
Jacket of all kinds	Doz'000	55	63	73	73	73	73	73	73	73	73
Pant of all kinds	Doz'000	42	48	73	73	73	73	73	73	73	73
Outdoor Accessories of all kinds	Doz'000	42	48	56	56	56	56	56	56	56	56
Socks	Doz'000	7	8	9	9	9	9	9	9	9	9
Sleeping bags	Doz'000	7	8	9	9	9	9	9	9	9	9
Hats	Doz'000	7	8	9	9	9	9	9	9	9	9
Head masks	Doz'000	7	8	9	9	9	9	9	9	9	9
Gloves	Doz'000	14	16	20	20	20	20	20	20	20	20
		152	**174**	**202**	**202**	**202**	**202**	**202**	**202**	**202**	**202**



ZKG ASIA Limited

Schedule Annexed to Proposal under Foreign Investment Law

CMP Rate

Description	Currency	Unit	Rate
Value			
Jacket of all kinds	US$	Dozens	55
Pant of all kinds	US$	Dozens	55
Outdoor Accessories of all kinds	US$	Dozens	42
Socks	US$	Dozens	7
Sleeping bags	US$	Dozens	7
Hats	US$	Dozens	7
Head masks	US$	Dozens	7
Gloves	US$	Dozens	14

ZKG ASIA Limited
Schedule Annexed to Proposal under Foreign Investment Law
Investments **(In Million)**

Description	Amount
	US$'million
Capital Contribution	
Machinery, Equipment and Tools	1.0902
Furniture & Fixture	-
Vehicles	0.7362
Cash	-
Total	1.8264






Employee List (Foreigners and Local) and Salaries

ZKG ASIA Limited							
Schedule Annexed to Proposal under Foreign Investment Law							
List of Staffs Required							
							(In Million)
Sr.	Description	Yr 1-2			Yr 3-10		
		No.	Rate per month	Yearly Amount	No.	Rate per month	Yearly Amount
			US$	US$'million		US$	US$'million
1	Local Staff						
1	Finance Manager	1	500	0.0060	1	500	0.0060
2	Admin Manager	1	300	0.0036	1	300	0.0036
3	Supervisor	7	150	0.0126	7	150	0.0126
4	Assistant Supervisor	10	120	0.0144	10	110	0.0132
5	Account Staff	3	125	0.0045	3	125	0.0045
6	Admin Staff	3	150	0.0054	3	150	0.0054
7	Marketing Staff	3	150	0.0054	3	150	0.0054
8	Security	10	90	0.0096	10	95	0.0096
9	Driver	2	110	0.0026	2	110	0.0026
10	Cleaner	4	90	0.0029	4	95	0.0034
11	PQC	90	125	0.1350	90	125	0.1350
12	QC	45	110	0.0594	45	115	0.0621
13	Skill Worker	1000	110	1.3200	1050	115	1.4490
14	Unskilled Worker	150	90	0.1440	175	95	0.1785
	Total	1329		1.7254	1404		1.8909
2	Foreign Experts and Technicians required-						
	Factory Staffs						
	General Manager	1	1000	0.0120	1	1000	0.0120
	Factory Manager	1	750	0.0090	1	750	0.0090
	Engineer/Mechanic	1	750	0.0090	1	750	0.0090
	Technician (including QC, PQC)	5	750	0.0450	5	750	0.0450
	Marketing Manager	1	650	0.0078	1	650	0.0078
		9		0.0828	9		0.0828
	Total	1338		1.8082	1413		1.9737

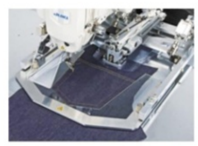
Foreign Import Machines and Equipment

- See list for details;













ZKG ASIA Limited
IRR, ROI, Commercial Tax Amount, Income Tax Amount

- **IRR or Investment Rate of Return** (in USD '000,000)

➡ **18.70%**

- **ROI or Return on Investment**

➡ **Full return on investment is expected to be achieved in 4 years and 5 months of operation.**

- **Commercial Tax Amount**

➡ **No charged on CMP income**

- **Income Tax Amount**

➡

year	Y+1	Y+2	Y+3	Y+4	Y+5	Y+6	Y+7	Y+8	Y+9	Y+10
Income Tax	-	-	-	-	-	0.0126	0.0126	0.0126	0.0126	0.0126

Product Photos, Building Photos

- Jacket of all kinds







- Pant of all kinds









Outdoor Accessories of all kinds

- Socks





- Sleeping bags





- Hats
- Head masks
- Gloves





Building Scenes



CSR

ZKG Asia Co., Ltd Community Social Responsibility Programme outline

We want our company to be known like this

- It is run for and can be seen to be run for the benefit of profit, people and planet.
- Employees value it as a great place to work.
- Customers and suppliers value it as a good business to do business with.
- The community values it as a great neighbor.
- Investors and financiers value it as worth investing in.
- It has a good health and safety record.
- It has environmentally friendly premises.

The Primary Activities

Educational support (hereinafter known as) to the younger brothers and sisters of our workers.
This includes, "support" by means of;

- Support of financial means to needy students
- Support of educational advice to those needed
- Support of educational materials to those needed

Selection Process of beneficiaries, delivery of programme.

The selection process shall be transparent and fair. The process includes the following steps;

- Selection of management committee (known hereafter as the "committee") of 11 members which includes 2 persons from the management of the factory.
- The committee shall develop the rules and regulation of the programme.
- The committee shall invite applications to the programme that reflect the terms and conditions of the rules and regulation of the programme.
- The beneficiaries will be listed and short listed accordingly.
- The support shall be delivered accordingly.
- All progress and achievements shall be documented and presented publically ion the factory premises.

The budget of the programme

- The budget shall not exceed 1% (Say one percent only), of the factory's gross income for a financial year.

Fire Protection Systems

- Fire Protection Systems Inspection was done by the Mingalardon Township Fire Department in June 2014
- Inspection of Fire Extinguishers, Fire Escape Doors and Routes, Alarms Systems were done
- Fire Drills shall be established and the workers will be trained when recruitment starts
- Fire safety certificate is expected to be obtained shortly

Environment Impact Measures

- Environmental Impact Analysis will serves the basis of the following;
  - Environmental Impact Monitoring plan
  - Health and Safety plan
  - Waste Disposal Plan
  - Waste Water Management Plan
  - Security Plan
- Factory inspection
- Electrical inspection
- YCDC inspection

will all be conducted within receiving the MIC permit very soon.

Thank you for your kind attention

備註 / OBSERVATIONS



K02504889

中華人民共和國香港特別行政區
HONG KONG SPECIAL ADMINISTRATIVE REGION, PEOPLE'S REPUBLIC OF CHINA

護照 PASSPORT

類別 / TYPE: P
簽發國代碼 / CODE OF ISSUING STATE: CHN
護照號碼 / PASSPORT NO.: K02504889



HKPIC E392515(7)

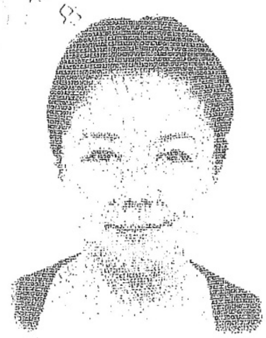
姓 / SURNAME: 李 / LEE
名 / GIVEN NAMES: 國新 / KWOK SUN THOMAS
國籍 / NATIONALITY: CHINESE
出生日期 / DATE OF BIRTH: 10 JUN 51
性別 / SEX: M
出生地點 / PLACE OF BIRTH: GUANGDONG
簽發日期 / DATE OF ISSUE: 20 DEC 11
有效期至 / DATE OF EXPIRY: 20 DEC 21
簽發機關 / AUTHORITY: 香港特別行政區入境事務處
IMMIGRATION DEPARTMENT, HONG KONG SPECIAL ADMINISTRATIVE REGION

P<CHNLEE<<KWOK<SUN<THOMAS<<<<<<<<<<<<<<<<<<<

K025048890CHN5106103M2112208<E3925157<<<<<86

備註 / OBSERVATIONS

1



K02504887

中華人民共和國香港特別行政區
HONG KONG SPECIAL ADMINISTRATIVE REGION, PEOPLE'S REPUBLIC OF CHINA

護照 PASSPORT

類別 / TYPE P

簽發國代碼 / CODE OF ISSUING STATE CHN

護照號碼 / PASSPORT NO. K02504887



HKPIC E5922902(1)

姓 / SURNAME
周 / CHOW

名 / GIVEN NAMES
佩芳 / PUI FONG DORA

國籍 / NATIONALITY
CHINESE

出生日期 / DATE OF BIRTH
08 DEC 54

性別 / SEX
F

出生地點 / PLACE OF BIRTH
HONG KONG

簽發日期 / DATE OF ISSUE
20 DEC 11

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20 DEC 21

簽發機關 / AUTHORITY
香港特別行政區入境事務處
IMMIGRATION DEPARTMENT, HONG KONG SPECIAL ADMINISTRATIVE REGION

P<CHNCHOW<<PUI<FONG<DORA<<<<<<<<<<<<<<<<<<<<<

K025048878CHN5412080F2112208<E5922902<<<<<34

Schedule - 1

ZKG ASIA Limited
Schedule Annexed to Proposal under Foreign Investment Law
Form of Economic Organization

Sr.	Name	Nationality & ID No.	Position	Address	Number of Share	Value of Share US$(million)	%
1	Top Crown Industries Limited	Incoporated in Hong Kong			10,000	1.00	50%
	Represented by: Mr. Lee Kwok Sun, Thomas	Chinese **PP No. K-02504889**	Managing Director	Rm -3708, Asia Trade Centre, 79 Lei Muk Road, Kwai Chung, NT, Hong Kong			
2	Chater Limited	Incoporated in Hong Kong			10,000	1.00	50%
	Represented by: Mrs.Chow Pui Fong, Dora	Chinese **PP No. K-02504887**	Director	Rm.3708, Asia Trade Centre, 79 Lei Muk Road, Kwai Chungm , NT, Hong Kong			
3	Ms. Wong Sui Ping	Chinese **PP No. HA-2013234**	Director	Rm.3710, Asia Trade Centre, 79 Lei Muk Road, Kwai Chungm , NT, Hong Kong			
					20,000	2.00	100%

လျှို့ဝှက်

ZKG ASIA Limited
Schedule Annexed to Proposal under Foreign Investment Law
Machinery and Equipment - Import

Sr.	Description	A/U	Qty	Unit Price
				US$
1	Cover Stitch Machine	Pcs	3	300
2	Cover Stitch Machine	Pcs	1	300
3	Zigzag Machine	Pcs	2	300
4	Cover Stitch Machine	Pcs	61	300
5	Multiple Thread Overlock Sewing Machine	Pcs	93	500
6	Software	Pcs	30	2,000
7	Heat Cutter	Pcs	32	1,000
8	Bartacking Machine	Pcs	42	400
9	Button Hole Sewing Machine	Pcs	3	400
10	Button Sewing Machine	Pcs	3	300
11	Snapping Machine	Pcs	35	300
12	Digitizer	Pcs	2	600
13	Light Box	Pcs	1	100
14	Circuit Panel	Pcs	2	500
15	Down Filling Machine (Small)	Pcs	28	600
16	Zig Zag Machine	Pcs	3	400
17	Electric Lockstitch Sewing Machine	Pcs	376	500
18	Electric Pattern Sewing Machine	Pcs	2	300
19	Embroidery Machine	Pcs	3	300
20	Heat Seal Presses	Pcs	26	300
21	Cutter	Pcs	12	300
22	Cutting Knife Grinder	Pcs	1	300
23	Basic Cutting Machine	Pcs	15	300
24	Basic Software	Pcs	1	300
25	Cutting Bed	Pcs	12	300
26	Cloth Cutter	Pcs	1	300
27	Dryer	Pcs	10	300
28	Vacuum Table	Pcs	2	300
29	Incubator	Pcs	1	300
30	Double Needle Sewing Machine	Pcs	180	400
31	Down Filling Machine (Large)	Pcs	3	1,200
32	Drying Machine	Pcs	2	250
33	Electric Pallet Trolley	Pcs	1	1,500
34	Electric Scissors	Pcs	32	350
35	Hanger System	Pcs	1	10,000
36	Electric Tricyle	Pcs	1	350
37	Electronic Button Sewing Machine	Pcs	5	600
38	Electric Elevator / Lift	Pcs	1	2,000
39	End Cutter	Pcs	6	500
40	Fabric Inspection Machine	Pcs	5	1,600
41	Flat Seam Machine	Pcs	7	500
42	Lockstitch Sewing Machine	Pcs	2	450
43	Overlock Sewing Machine	Pcs	118	400
44	Multineedles Stitch Machine	Pcs	2	400
45	Heat Presses	Pcs	7	500
46	Multiple Thread Overlock Sewing Machine	Pcs	76	500
47	Automatic Cutting Machine	Pcs	8	450
48	Air Receiver Tank	Pcs	3	200
49	Heat Press Machine	Pcs	168	500

ZKG ASIA Limited
Schedule Annexed to Proposal under Foreign Investment Law
Machinery and Equipment - Import

Sr.	Description	A/U	Qty	Unit Price
				US$
50	Zig Zag Machine	Pcs	6	400
51	Heat Presser Sealing	Pcs	70	500
52	Cutting Machine	Pcs	10	500
53	Hot Elastic Roller	Pcs	2	350
54	Hydraulic Cutting Machine	Pcs	3	400
55	Hydraulic Cutting Machine (Large)	Pcs	5	500
56	Interlock Cover Stitch Machine	Pcs	4	400
57	LAN Switch Machine	Pcs	5	1,500
58	Laser Cutting Machine	Pcs	1	4,000
59	Laser Cutting Machine	Pcs	5	10,000
60	Lifting Platform	Pcs	1	800
61	Lockstitch Sewing Machine	Pcs	319	400
62	Pallet Trolley	Pcs	7	600
63	Pallet Trolley	Pcs	2	450
64	Mechanical Tester	Pcs	1	300
65	CCTV	Pcs	2	350
66	Needle Detector	Pcs	10	1,300
67	Overlock Sewing Machine	Pcs	6	450
68	Plotter	Pcs	6	450
69	Rolling Machine (Large)	Pcs	1	700
70	Purifier	Pcs	2	250
71	Ironing Table	Pcs	55	150
72	Air Dryer	Pcs	5	200
73	Rolling Machine (Small)	Pcs	2	350
74	Taping Sewing Machine	Pcs	7	400
75	Air Compressor	Pcs	5	500
76	Pallet Trolley	Pcs	1	500
77	Strapping Machine	Pcs	7	450
78	Skiving Machine	Pcs	5	300
79	Cover Stitch Machine (Small Cylinder)	Pcs	3	700
80	Boiler	Pcs	14	250
81	Swing Needle Sewing Machine	Pcs	8	450
82	Switching Box	Pcs	1	100
83	Tape Punch	Pcs	1	150
84	Pattern Cutting Machine	Pcs	3	1,500
85	Hydrostatic Tester	Pcs	9	350
86	Thread Sucking Machine	Pcs	3	250
87	Cover Stitch Machine	Pcs	41	500
88	Ultrasound Cutter	Pcs	10	300
89	Ultrasound Sewing Machine	Pcs	1	500
90	Round Cutter	Pcs	2	450
91	Water Softener	Pcs	5	200
92	Webbing Cutter	Pcs	2	400
93	Lockstitch Sewing Machine	Pcs	15	400
94	Single Needle Spreader	Pcs	3	500
95	Twin Needle Spreader	Pcs	3	500
96	Snap Button Machine	Pcs	31	550
97	Button Hole Machine	Pcs	1	450
98	Ironing Machine	Pcs	2	400

လျှို့ဝှက်

ZKG ASIA Limited
Schedule Annexed to Proposal under Foreign Investment Law
Machinery and Equipment - Import

Sr.	Description	A/U	Qty	Unit Price
				US$
99	Ironing Boiler	Pcs	1	250
100	Portable Needle Dector	Pcs	2	1,250
101	Compressing Machine	Pcs	1	500
102	Tread Dividing Machine	Pcs	3	250
103	Computer-Controlled Cycle Machine	Pcs	10	500
104	Plastic Board Cutting Machine	Pcs	2	400
105	Lockstitch Straight Trimming Machine	Pcs	2	400
106	Marker Machine	Pcs	1	1,600
107	Rim Cutting Machine	Pcs	1	1,800
108	Ticket Printing Machine	Pcs	2	300
			2,169	

Schedule - 2

(In Million)

Amount
US$'million
0.0009
0.0003
0.0006
0.0183
0.0465
0.0600
0.0320
0.0168
0.0012
0.0009
0.0105
0.0012
0.0001
0.0010
0.0168
0.0012
0.1880
0.0006
0.0009
0.0078
0.0036
0.0003
0.0045
0.0003
0.0036
0.0003
0.0030
0.0006
0.0003
0.0720
0.0036
0.0005
0.0015
0.0112
0.0100
0.0004
0.0030
0.0020
0.0030
0.0080
0.0035
0.0009
0.0472
0.0008
0.0035
0.0380
0.0036

Schedule - 2

(In Million)

Amount
US$'million
0.0024
0.0350
0.0050
0.0007
0.0012
0.0025
0.0016
0.0075
0.0040
0.0500
0.0008
0.1276
0.0042
0.0009
0.0003
0.0007
0.0130
0.0027
0.0027
0.0007
0.0005
0.0083
0.0010
0.0007
0.0028
0.0025
0.0005
0.0032
0.0015
0.0021
0.0035
0.0036
0.0001
0.0002
0.0045
0.0032
0.0008
0.0205
0.0030
0.0005
0.0009
0.0010
0.0008
0.0060
0.0015
0.0015
0.0171
0.0005
0.0008

လျှို့ဝှက်

Schedule - 2

(In Million)

Amount
US$'million
0.0003
0.0025
0.0005
0.0008
0.0050
0.0008
0.0008
0.0016
0.0018
0.0006
1.0902

လျှို့ဝှက်

Schedule - 2-A

ZKG ASIA Limited

Schedule Annexed to Proposal under Foreign Investment Law

Machinery and Equipment (Local Purchase)

(In Million)

Sr.	Description	A/U	Qty	Unit Price	Amount
				US$	US$'million
1	Multiple Thread Overlock Sewing Machine	Pcs	62	500	0.0310
2	Multiple Thread Overlock Sewing Machine	Pcs	6	500	0.0030
3	Computer Equipment	Pcs	1	2,000	0.0020
4	End Cutter	Pcs	14	300	0.0042
5	Double Needle Sewing Machine	Pcs	17	300	0.0051
6	Double Needle Sewing Machine	Pcs	1	500	0.0005
7	Iron	Pcs	30	100	0.0030
8	Air Compressor	Pcs	7	500	0.0035
9	Ironing Table	Pcs	55	150	0.0083
10	Server	Pcs	3	1,200	0.0036
11	Hot Vacuum Table	Pcs	3	300	0.0009
12	UPS	Pcs	1	100	0.0001
13	Lockstitch Sewing Machine	Pcs	1,426	300	0.4278
14	Generator	Pcs	2	8,000	0.0160
			1,628		0.5090

ZKG ASIA Limited
Schedule Annexed to Proposal under Foreign Investment Law
Furniture and Office Equipment (Local Purchase)

Sr.	Description	A/U	Qty	Unit Price
				US$
I	**Furniture**			
1	Cabinet	Pcs	3	300
II	**Office Equipment**			
1	Computer	Pcs	30	500
2	Color Printer	Pcs	1	100
3	Broadcast Systems	Pcs	4	300
	Total			**1,200**

သိူ့ရက်

Schedule - 3
(In Million)
Amount
US$'million
0.0009
0.0009
0.0163
0.0150
0.0001
0.0012
0.0172

သို့မဟုတ်

Schedule - 4

ZKG ASIA Limited
Schedule Annexed to Proposal under Foreign Investment Law
Vehicles (Local Purchase)

(In Million)

Sr.	Description	A/U	(Qty)	Unit Price	Amount
				US$	US$'million
1	Truck (1.5 ton) (2010 Model & Up)	Pcs	3	20,000	0.0600
	Total				**0.0600**

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ZKG ASIA Limited
Schedule Annexed to Proposal under Foreign Investment Law
Raw-materials Requirement

(In

Description	A/U	Y+1	Y+2	Y+3	Y+4	Y+5	Y+6	Y+7	Y+8	Y+9
Raw Materials										
1 Fabric	yd(000)	2,938	3,379	3,886	3,886	3,886	3,886	3,886	3,886	3,886
2 Button	pcs(000)	5,952	6,845	7,872	7,872	7,872	7,872	7,872	7,872	7,872
3 Zippers	pcs(000)	2,724	3,133	3,602	3,602	3,602	3,602	3,602	3,602	3,602
4 Thread	yd(000)	133,365	153,370	176,375	176,375	176,375	176,375	176,375	176,375	176,375
5 Labels	Nos(000)	4,464	5,134	5,904	5,904	5,904	5,904	5,904	5,904	5,904
6 Interlining	yd(000)	1,341	1,542	1,773	1,773	1,773	1,773	1,773	1,773	1,773

Please see Schedule - 5A for detail requirement of raw materials per pcs

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chedule - 5

Thousand)

Y+10
3,886
7,872
3,602
176,375
5,904
1,773

လျှို့ဝှက်

Schedule - 5(A)

ZKG ASIA Limited

Schedule Annexed to Proposal under Foreign Investment Law

Raw-materials Requirement For One Unit

Sr.No	Particular	Fabric	Interling	Button	Zipper	Thread	Label
		(Yards)	(Yards)	(Pcs)	(Pcs)	(Yards)	(Nos)
1	Jacket	2.5	2	5	3	120	3
2	Pant	1.5		3	1	80	3
3	Outdoor Accessories of all kinds						
	a. Socks	0.25				0.25	1
	b. Sleeping bags	2		7	1	8	1
	c. Hats	0.25	0.25	1		4	1
	d. Head masks	0.25				2	1
	e. Gloves	0.4				1	1

လျှို့ဝှက်

ZKG ASIA Limited
Schedule Annexed to Proposal under Foreign Investment Law
Estimated Production Quantity

Description	A/U	Estimated Production Capacity (based on 300 days per year)							
		Y+1	Y+2	Y+3	Y+4	Y+5	Y+6	Y+7	Y+8
Production / Sale									
Jacket of all kinds	Doz'000	55	63	73	73	73	73	73	73
Pant of all kinds	Doz'000	55	63	73	73	73	73	73	73
Outdoor Accessories of all kinds	Doz'000	42	48	56	56	56	56	56	56
Socks	Doz'000	7	8	9	9	9	9	9	9
Sleeping bags	Doz'000	7	8	9	9	9	9	9	9
Hats	Doz'000	7	8	9	9	9	9	9	9
Head masks	Doz'000	7	8	9	9	9	9	9	9
Gloves	Doz'000	14	16	19	19	19	19	19	19
		152	174	202	202	202	202	202	202

လျှို့ဝှက်

Schedule - 6

(In Thousand - '000)

Y+9	Y+10
73	73
73	73
56	56
9	9
9	9
9	9
9	9
19	19
202	202

လှိုင်ဝှက်

ZKG ASIA Limited
Schedule Annexed to Proposal under Foreign Investment Law
Amount of Foreign Exchange to be Received

	Description	A/U	Y+1	Y+2	Y+3	Y+4	Y+5	Y+6	Y+7	Y+8	Y+9
A	**CMP System**										
	(a) Quantity										
1	Jacket of all kinds	Doz'000	55	63	73	73	73	73	73	73	73
2	Pant of all kinds	Doz'000	55	63	73	73	73	73	73	73	73
3	Outdoor & clothing Accessories of all kinds	Doz'000	42	48	56	56	56	56	56	56	56
	a. Socks	Doz'000	7	8	9	9	9	9	9	9	9
	b. Sleeping bags	Doz'000	7	8	9	9	9	9	9	9	9
	c. Hats	Doz'000	7	8	9	9	9	9	9	9	9
	d. Head masks	Doz'000	7	8	9	9	9	9	9	9	9
	e. Gloves	Doz'000	14	16	19	19	19	19	19	19	19
	(b) CMP Charges										
1	Jacket of all kinds	US$'/doz	33.60	33.60	34.80	34.80	34.80	34.80	34.80	34.80	34.80
2	Pant of all kinds	US$'/doz	21.60	21.60	22.80	22.80	22.80	22.80	22.80	22.80	22.80
3	Outdoor & clothing Accessories of all kinds										
	a. Socks	US$'/doz	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
	b. Sleeping bags	US$'/doz	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
	c. Hats	US$'/doz	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
	d. Head masks	US$'/doz	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
	e. Gloves	US$'/doz	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
	('c) Value (a x b)										
1	Jacket of all kinds	US$'mil	1.8480	2.1168	2.5404	2.5404	2.5404	2.5404	2.5404	2.5404	2.5404
2	Pant of all kinds	US$'mil	1.1880	1.3608	1.6644	1.6644	1.6644	1.6644	1.6644	1.6644	1.6644
3	Outdoor & clothing Accessories of all kinds										
	a. Socks	US$'mil	0.0245	0.0280	0.0315	0.0315	0.0315	0.0315	0.0315	0.0315	0.0315
	b. Sleeping bags	US$'mil	0.0315	0.0360	0.0405	0.0405	0.0405	0.0405	0.0405	0.0405	0.0405
	c. Hats	US$'mil	0.0245	0.0280	0.0315	0.0315	0.0315	0.0315	0.0315	0.0315	0.0315
	d. Head masks	US$'mil	0.0210	0.0240	0.0270	0.0270	0.0270	0.0270	0.0270	0.0270	0.0270
	e. Gloves	US$'mil	0.0420	0.0480	0.0570	0.0570	0.0570	0.0570	0.0570	0.0570	0.0570
	Total Export Sales	US$'000	3.1795	3.6416	4.3923	4.3923	4.3923	4.3923	4.3923	4.3923	4.3923

Schedule - 7

(In Million)

Y+10
73
73
56
9
9
9
9
19
34.80
22.80
3.50
4.50
3.50
3.00
3.00
2.5404
1.6644
0.0315
0.0405
0.0315
0.0270
0.0570
4.3923

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ZKG ASIA Limited
Schedule Annexed to Proposal under Foreign Investment Law
Annual Income, Annual Expenditure and Annual Net Profit

Sr.	Descriptions	Y+1	Y+2	Y+3	Y+4	Y+5	Y+6	Y+7	Y+8	Y+9
		US$'million	US$'million	US$'million	US$'million	US$'million	US$'million	US$'million	US$'million	US$'million
(A)	Income									
	CMP Income	3.1795	3.6416	4.3923	4.3923	4.3923	4.3923	4.3923	4.3923	4.3923
	Total Income	3.1795	3.6416	4.3923	4.3923	4.3923	4.3923	4.3923	4.3923	4.3923
(B)	Cost of sale									
	Salary and wages	1.8082	1.8082	1.9737	1.9737	1.9737	1.9737	1.9737	1.9737	1.9737
	Overhead expenses	0.9519	1.1807	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
	Total Cost and Expenses	2.7601	2.9889	3.3196	3.3196	3.3196	3.3196	3.3196	3.3196	3.3196
(C)	Gross Profit/(Loss)	0.4194	0.6527	1.0727	1.0727	1.0727	1.0727	1.0727	1.0727	1.0727
(D)	Expenses									
	Indirect overhead expenses	0.2862	0.3277	0.3953	0.3953	0.3953	0.3953	0.3953	0.3953	0.3953
	Selling & Distribution	0.0060	0.0070	0.0090	0.0090	0.0090	0.0090	0.0090	0.0090	0.0090
	Depreciation on:									
	Machinery, Equipment and tools	0.1599	0.1599	0.1599	0.1599	0.1599	0.1599	0.1599	0.1599	0.1599
	Furniture and office equipment	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017
	Motor Vehicles	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060
	CSR expenses (total income @1%)	0.0318	0.0364	0.0439	0.0439	0.0439	0.0439	0.0439	0.0439	0.0439
	Total Cost and Expenses	0.4916	0.5387	0.6158	0.6158	0.6158	0.6158	0.6158	0.6158	0.6158
(E)	Profit/(Loss) Before Exchange	(0.0722)	0.1140	0.4569	0.4569	0.4569	0.4569	0.4569	0.4569	0.4569
(F)	Exchange Gain/(Loss)	-	-	-	-	-	-	-	-	-
(G)	Net Profit/(Loss) before Tax	(0.0722)	0.1140	0.4569	0.4569	0.4569	0.4569	0.4569	0.4569	0.4569
(H)	Income Tax 25%	-	-	-	-	-	(0.1140)	(0.1140)	(0.1140)	(0.1140)
(I)	Net Profit/(Loss) after Tax	(0.0722)	0.1140	0.4569	0.4569	0.4569	0.3429	0.3429	0.3429	0.3429

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Schedule - 8

(In Million)

Y+10
US$'million
4.3923
4.3923
1.9737
1.3459
3.3196
1.0727
0.3953
0.0090
0.1599
0.0017
0.0060
0.0439
0.6158
0.4569
-
0.4569
(0.1140)
0.3429

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Schedule - 9

ZKG ASIA Limited
Schedule Annexed to Proposal under Foreign Investment Law
List of Staffs Required

(In Million)

Sr.	Description	Yr 1-2			Yr 3-10		
		No.	Rate per month	Yearly Amount	No.	Rate per month	Yearly Amount
			US$	US$'million		US$	US$'million
1	**Local Staff**						
1	Finance Manager	1	500	0.0060	1	500	0.0060
2	Admin Manager	1	300	0.0036	1	300	0.0036
3	Supervisor	7	150	0.0126	7	150	0.0126
4	Assistant Supervisor	10	120	0.0144	10	110	0.0132
5	Account Staff	3	125	0.0045	3	125	0.0045
6	Admin Staff	3	150	0.0054	3	150	0.0054
7	Marketing Staff	3	150	0.0054	3	150	0.0054
8	Security	10	80	0.0096	10	80	0.0096
9	Driver	2	110	0.0026	2	110	0.0026
10	Cleaner	4	60	0.0029	4	70	0.0034
11	PQC	90	125	0.1350	90	125	0.1350
12	QC	45	110	0.0594	45	115	0.0621
13	Skill Worker	1000	110	1.3200	1050	115	1.4490
14	Unskilled Worker	150	80	0.1440	175	85	0.1785
	Total	1329		1.7254	1404		1.8909
2	**Foreign Experts and Technicians required-**						
	Factory Staffs						
	General Manager	1	1000	0.0120	1	1000	0.0120
	Factory Manager	1	750	0.0090	1	750	0.0090
	Engineer/Mechanic	1	750	0.0090	1	750	0.0090
	Technician (including QC, PQC)	5	750	0.0450	5	750	0.0450
	Marketing Manager	1	650	0.0078	1	650	0.0078
		9		0.0828	9		0.0828
	Total	1338		1.8082	1413		1.9737

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Schedule - 10 **ZKG ASIA Limited** **Schedule Annexed to Proposal under Foreign Investment Law** **Yearly Investments** **(In Million)**	
Description	Amount
	US$'million
Capital Contribution	
Machinery, Equipment and Tools	1.0902
Furniture & Fixture	-
Vehicles	-
Cash	0.7362
Total	1.8264

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Schedule - 11

ZKG ASIA Limited
Schedule Annexed to Proposal under Foreign Investment Law
Cash Flow

(In Million)

Sr.	Descriptions	Pre-Operating	Y+1	Y+2	Y+3	Y+4	Y+5	Y+6	Y+7	Y+8	Y+9	Y+10
		US$'million	US$'million	US$'million	US$'million	US$'million	US$'million	US$'million	US$'million	US$'million	US$'million	US$'million
(A)	**Investment**											
1	Building and Structure	-	-	-	-	-	-	-	-	-	-	-
2	Machinery, Equipment and tools	1.0902	-	-	-	-	-	-	-	-	-	-
3	Furniture & Fixture	-	-	-	-	-	-	-	-	-	-	-
4	Vehicles	-	-	-	-	-	-	-	-	-	-	-
5	Cash	0.7362	-	-	-	-	-	-	-	-	-	-
(B)	**Income**											
1	CMP Income	-	3.1795	3.6416	4.3923	4.3923	4.3923	4.3923	4.3923	4.3923	4.3923	4.3923
	CASH INFLOWS	1.8264	3.1795	3.6416	4.3923	4.3923	4.3923	4.3923	4.3923	4.3923	4.3923	4.3923
(A)	**Fixed Assets**											
1	Building and Structure	-	-	-	-	-	-	-	-	-	-	-
2	Machinery, Equipment and tools	0.5090	-	-	-	-	-	-	-	-	-	-
3	Furniture & Fixture	0.0172	-	-	-	-	-	-	-	-	-	-
4	Vehicles	0.0600	-	-	-	-	-	-	-	-	-	-
(B)	**Cost of Sales**											
1	Salary and Wages	-	1.8082	1.8082	1.9737	1.9737	1.9737	1.9737	1.9737	1.9737	1.9737	1.9737
2	Factory Overheads	-	0.9519	1.1807	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
(C)	**Cost & Expense**											
1	Administrative Exp.	-	0.2862	0.3277	0.3953	0.3953	0.3953	0.3953	0.3953	0.3953	0.3953	0.3953
2	Selling & Distribution Exp.	-	0.0060	0.0070	0.0090	0.0090	0.0090	0.0090	0.0090	0.0090	0.0090	0.0090
3	CSR expenses	-	0.0318	0.0364	0.0439	0.0439	0.0439	0.0439	0.0439	0.0439	0.0439	0.0439
3	Income Tax 25%	-	-	-	-	-	-	0.1140	0.1140	0.1140	0.1140	0.1140
	CASH OUTFLOWS	0.5862	3.0841	3.3600	3.7678	3.7678	3.7678	3.8818	3.8818	3.8818	3.8818	3.8818
	SURPLUS/(DEFICIT)	1.2403	0.0954	0.2816	0.6245	0.6245	0.6245	0.5105	0.5105	0.5105	0.5105	0.5105
	CASH BALANCE	1.2403	1.3357	1.6172	2.2417	2.8662	3.4907	4.0012	4.5117	5.0222	5.5327	6.0432

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Schedule - 12

ZKG ASIA Limited

Schedule Annexed to Proposal under Foreign Investment Law

Internal Rate of Return

(In Million)

Year	Net Cash Flow
	US$'million
Y = 0	(1.8264)
Y + 1	0.0954
Y + 2	0.2816
Y + 3	0.6245
Y + 4	0.6245
Y + 5	0.6245
Y + 6	0.5105
Y + 7	0.5105
Y + 8	0.5105
Y + 9	0.5105
Y + 10	0.5105
	2.9766

IRR **19.67%**

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Schedule - 13

ZKG ASIA Limited
Schedule Annexed to Proposal under Foreign Investment Law
Recoupment Period

(In Million)

Sr.	Description	Pre-Operating	Y+1	Y+2	Y+3	Y+4	Y+5	Y+6	Y+7	Y+8	Y+9	Y+10
		US$'million	US$'million	US$'million	US$'million	US$'million	US$'million	US$'million	US$'million	US$'million	US$'million	US$'million
(A)	Receipts											
1	Net Profit(Loss) after Tax	-	(0.0722)	0.1140	0.4569	0.4569	0.4569	0.3429	0.3429	0.3429	0.3429	0.3429
2	Depreciation	-	0.1676	0.1676	0.1676	0.1676	0.1676	0.1676	0.1676	0.1676	0.1676	0.1676
	Net Cash Receipt from Operation	-	0.0954	0.2816	0.6245	0.6245	0.6245	0.5105	0.5105	0.5105	0.5105	0.5105
(B)	Investment											
1	Machinery, Equipment and tools	1.0902	-	-	-	-	-	-	-	-	-	-
2	Furniture & Fixture	-	-	-	-	-	-	-	-	-	-	-
3	Vehicles	-										
4	Cash	0.7362	-	-	-	-	-	-	-	-	-	-
	Total Investment	1.8264	-	-	-	-	-	-	-	-	-	-
(C)	Net Pay Back in each year	(1.8264)	0.0954	0.2816	0.6245	0.6245	0.6245	0.5105	0.5105	0.5105	0.5105	0.5105
(D)	Accumulated Pay Back	(1.8264)	(1.7310)	(1.4494)	(0.8249)	(0.2004)	0.4241	0.9346	1.4451	1.9556	2.4661	2.9766

Remark:
Pay Back Period of the Project is 4 Years and 3.85 Months.

Description	Kyat	Year	Month
Y + 4	(0.3209)	4.00	-
Y + 4 (0.2004/0.6245) x 12 Month	0.3209	-	3.85
	-	4.00	3.85

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ZKG ASIA LIMITED

(GARMENT FACTORY)

PROPOSAL OF THE PROMOTER

TO MAKE FOREIGN INVESTMENT

IN THE UNION OF MYANMAR

Initial Environmental Examination and Environmental Management Plan for ZKG Asia Limited (Myanmar)





Submitted to	:	**Ministry of Environmental Conservation and Forestry**
Submitted by	:	ZKG Asia Limited (Myanmar) Co.,Ltd
Prepared by	:	A.M.K and Associates (EIA Consulting)

Executive Summary

Background and Description of the Garment Factory

Applicable Environmental Regulations and Standard

Existing conditions of THONG THAI Garment Factory

Description of the Environment

Project Description

Garment Manufacturing Process Flow Chart

Environmental Impact Identification

INITIAL ENVIRONMENTAL EXAMINATION(IEE)

Institutional Requirement and Environmental Monitoring Plan

Environmental Management Plan

Environmental Monitoring & Budget Programme

Recommendation

Conclusion

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Appendix

Architectual Design detail drawing of building
Production Lines layout , lighting layout and lighting point Drawing
မြေငှားစာချုပ် နှင့် မြေကွက် မြေတိုင်း အိုးအိမ် ပုံစံ အက်စ် ၂၂ မိတ္တူ
Building Lay out Plan

Chapter-1. Executive Summary

1.1 Introduction

This report describes the findings of Initial Environmental Examination (IEE) of the proposed project of Garment Manufacturing Company Limited which is situated at No.(50)Shwe Myodaw Zaydi Lan, Yangon, Industry Zone(Mingalar don Garden Park) Mingalar Don Township, Yangon Region, Republic of the Union of Myanmar.

The main objectives of this report is to identify the major Environmental Impacts due to implementation of the project along with the effective measures to mitigate the adverse impacts, if any. There is no chemical process in the ZKG Asia Limited factory. The factory make ready made **cloths**(a piece of) woven material from which clothes.

1.2 Location of the Project

The proposed project ZKG Asia Limited Factory is located in No.(50)Shwe Myodaw Zaydi Lan, Yangon, Industry Zone(Mingalar don Garden Park) Mingalar Don Township, Yangon Region, Republic of the Union of Myanmar.



Figure 1: Location map of ZKG Asia Limited Factory in Myanmar.

1.3 Proposal Information Programme of the Project Description

The objective of the proposal is to implement the located in **No.(50) Shwe Myodaw Zaydi Lan, Yangon, Industry Zone(Mingalardon Garden Park) Mingalar Don** Township, Yangon Region, Republic of the Union of Myanmar.

1. The Investor's Promoter's

(a) Name	Mr.Lee Kwok Sun,Thomas
(b) Father's Name	Mr. Lee
(c) ID No/Passport No	PP NO-K- 02504889
(d) Citizens	Chinese
(e) Address	
(i) Address in Myanmar	
(ii) Residence aboard	Rm-3708, Asia Trade Centre, 79 Lei Muk Road, Kwai chung, NT, Hong Kong
(f) Type of Business	Trading and investment holding
(g) Parent company	Chater Limited
(h) Parent company address	Rm-3708, Asia Trade Centre, 79 Lei Muk Road, Kwai Vhung, NT, Hong Kong

2. If the investment business is formed under Joint-Venture, Partners:

(a) Name	Mrs. Chow Pui Fong, Dora
(b) Father's Name	Mr. Chow
(c) ID No/Passport No	PP NO-K- 02504887
(d) Citizens	Chinese
(e) Address	
(i) Address in Myanmar	
(ii) Residence aboard	Rm-3708, Asia Trade Centre, 79 Lei Muk Road, Kwai chung, NT, Hong Kong
(f) Type of Business	Trading and investment holding
(g) Parent company	Chater Limited
(h) Parent company address	Rm-3708, Asia Trade Centre, 79 Lei Muk Road, Kwai Vhung, NT, Hong Kong

3. Type of proposed investment business: -

(a) Manufacturing	Production of garments on CMP Basis
(b) Services business related with manufacturing	
(c) Service	
(d) Others	

Remark :Expressions about the nature of business with regard to the above paragraph (1)

4. Type of business organization to be formed:-

(a) One hundred percent	100% Foreign Company
(b) Joint Venture	
(c) Foreigner and Foreigner	ZKG Asia Limited
(i) Residence aboard	
(ii) Department /organization	
(d) By contractual basis	
(i) Foreigner and citizen	
(ii) Foreigner and Government	

Remark : The following information needs to attach for the above paragraph (4):-

(a) Share ratio for the authorized capital from abroad and local, names, citizenship, address and occupations of the directors;

(ii) Joint Venture Agreement (Draft) and recommendation of the Union Attorney General Office if the investment is related with the State;

Contract (Agreement) (Draft)(see Proposal to MIC)

5. Particular relating to company incorporation
   - (a) Authorised capital : US $ 2 million
   - (b) Types of shares : Ordinary shares
   - (c) Number of shares :

   Remark: Memorandum of Association and Articles of Association of the Company shall be submitted with regard to above paragraph 5.

6. Particulars relating to capital of the investment business

		US $(Million)	Percentage
(a)	Amount / percentage of local capital :		
(b)	Amount/ percentage of foreign capital to be contributed	1826.25	100 %
	Total :	1826.25	100 %

   - (c) Annually or period of proposed capital to be brought <u>in within 3 years from the date of approval</u>
   - (d) Last date of capital brought in :
   - (e) Proposed duration of investment : Fifty (50) years
   - (f) Commencement date of construction : Within 3 months from the date of appr:
   - (g) Construction period : Within 6 month

   Remark: Describe with annexure if it is required for the above Para 6 (c)

7. Detail list of foreign capital to be broth in -

			Foreign Currency (Million)	Equivalent Kyat (Million)
(a)	Foreign currency(Type and amount)	:	227.2	
(b)	Machinery and equipment and value (to enclose detail list)	:	1599.15	
(c)	List of initial raw materials and value (to enclose detail list)	:		
(d)	Value of Equipment List	:		
(e)	Value of vehicles	:		
(f)	Value of furniture & fixture	:		
	Total	:	1826.35	

   Remark: The evidence of permission of permission shall be submitted for the above para 7 (d) and (e).

8. Details of local capital to be contributed-

		Kyats (Million)
(a) Amount	:	
(b) Value of Machinery and equipment (to enclose detail list)	:	
(c) Rental rate for building / and for year 1	:	
(d) Cost of building construction	:	
(e) Value of furniture and assets (to enclose detail list)	:	
(f) Value of initial raw material requirement (to enclose detail list)	:	
(g) Other	:	
Total	:	

9. Particulars about the investment business

(a) Investment location (s) / place	:	No.(50)Shwe Myodaw Zaydi Lan, Yangon, Industry Zone(Mingalar don Garden Park)
(b) Type and area requirement for land or land and building		
(i) Location	:	No.(50)Shwe Myodaw Zaydi Lan, Yangon, Industry Zone(Mingalar don Garden Park) Yangon
(ii) Number of land/building area	:	Approx2000 acres of land
(iii) Owner of the land		Mr. Soe Soe Than
(aa) Name /company / department	:	Arr Man Thit Automobile Co.Ltd
(bb) National Registration Card No	:	
(cc) Adress	:	No.27, 4th Lane Kan Road, 10th Ward, Hlaing Township, Yangon
(iv) Type of land	:	Local Citizen owned
(v) Period of land lease contract	:	Twelve (12)years+Ten (10)Years +Twelve (12)years
(vi) Lease Period February 2014 to January 2026 , (12) year	:	
(vii) Lease rate		
(aa) Land }	:	31,000,000 kyats per month
(bb) Building }	:	
(viii) Ward	:	Yangon Industry Zone
(ix) Township	:	Mingalar Don Township
(x) State / Region	:	Yangon
(xi) Lessee		
(aa) Name/Name of Company / Department	:	Mrs. Chow Pui fong Dora
(bb) Father's Name	:	Mr. Chow
(cc) Citizenship	:	Chinese
(dd) ID No./ Passport No	:	K02504887
(ee) Residence Address	:	Rm-3708, Asia Trade Centre, 79 Lei Muk Road, Kwai chung, NT, Hong Kong

Remark: Following particulars have to enclosed for a above for a above para 9 (b)

(i) to enclose land map, land ownership and ownership evidences;

(ii) draft land lease agreement, recommendation from the Union Attorney General Office if the land is related to the State; (see Proposal to MIC)

(c) Requirement of building to be constructed;		
(i) Type / number of building	:	(Attached)
(ii) Area	:	Approx 2Acres
(d) Product to be produced /Service		
(1) Name of Product	:	
(2) Estimate amount to be produced annually	:	
(3) Type of service	:	
(4) Estimate value of service annually	:	
(e) Annual requirement of materials / raw materials	:	

Remark : According to the above pera 9 (e) detail list of products in terms of type of products, quantity, value, technical specification for the production shall be listed and enclosed.

(f) Production system	:	Production of garments on CMP Basis
(g) Technology	:	With modernized sewing machines and equipments

(h) System of sale : Export Sale 100 %
(i) Annual fuel requirement : Diesel (12800) Gals
(j) Annual electricity requirement : 33 KWh per month
(k) Annual water requirement : 10 million Gals
(to prescribe daily requirement, if any) 833,300 gals daily

10. Detail information about financial standing-
(a) Name / company's name : Top Crown Industries Limited Chater Limited
(b) ID No. / National Registration Card No : 35641106-000-12-13-2
50086301-000-05-13-6
(c) Bank Account No :
(d) Bank, :
Remark : To enclose bank statement from resident country or annual audit report of the principal company with regard to the above para 10.

11. Number of personel required for the proposed economic activity;-
(a) Local Personal : (684) numbers (99)%
(b) Foreign experts and technicians : (9) numbers (1)%
(Engineer, QC , ZBuyer, Managemet, etc. based on the nature of business and required period)
Remark: As per par 11 the following information shall be enclosed:
(i) Number of personal, occupation, salary, etc;
(ii)Social security and welfare arrangements for personal;
(iii)Family accompany with foreign employee;
Particulars relating to economic justification

12. Particulars relating to economic justification : (In Million)
Foreign Currency Equivalent Estimated Kyats

(a) Local Personal :
(b) Annual income :
(c) Annual expenditure :
(d) Annual net profit :
(e) Yearly investment :
(f) Recoupment Period :
(g) Other benefits(to enclose detail calculation) :

ZKG(MYM) intend to conduct Initial Environmental Examination (IEE) study of their garment factory to be located at No.(50)Shwe Myodaw Zaydi Lan, Yangon, Industry Zone(Mingalar don Garden Park) Yangon. Thus, a technical assessment has been prepared in this regard.

1.4 Scope of work

The scope of work includes preparation of the IEE report according to the guideline for the preparation of IEE from MOCAF and subsequent rules, regulations and directive from Government department. Details this scope and work along with the format of the IEE is prepared with primary data, secondary data, data provided by proponents.

1.5 Methodology

Field observation of the factory located within Unique and its surrounding was carried out during the period from November to December. A line transect survey was carried out in the proposed and direct observations were made to identify factory water resources, land use pattern, environmentally sensitive and protected areas. Other reliable information was collected from respective authorities during public consultation meetings. Secondary information for the report

was gathered from printed materials and other sources of Government Departments, Authorities, Ministries, NGOs and relevant websites etc.

The EIA report for the project is carried out by A.M.K and Associates (Environmental Consulting) who has taken an independent project . A.M.K and Associates (Environmental Consulting) has engaged Electrum Geotechnical Services Co.,Ltd to perform the services described as reconnaissance study of Laboratory testing in ground water and soil sample .This services has been performed in accordance to the provisions specified in the studying schedule. All samples have been collected by Electrum onsite team during field study and submitted to the Laboratory of Electrum Geotechnical Services for analysis as specified.

The project site and environs inspection was conducted by U Aung Myat Kyaw, Dr. Aung Lay Tin, U Soe Lwin Myint, and U Nay Soe Tun ..Implementation organization team had been started reconnaissance study at proposed area of ZKG Garment factory. And also well performance of U Thaung Aye Lwin and Daw Swe Zin Win from Electrum Co.Ltd. in accomplishment of report preparation. All of the mare well acknowledged for their well assessments.

1.6 Implementation organization team

Table 1: Implementation organization team

Name	Qualifications	Roles
U Aung Myat Kyaw	BSc(Geology)	Project Consultant and Team Leader
Dr.Aung Lay Tin	A.GTI(Machine Tools) B.E (Mining)	Consultant Environmental Management
U Thaung Aye Lwin	B.E,AGTI (Mining Engineering)	Report preparation
Daw Swe Zin win	MSc,BSc (Geology,Engineering Geologist)	Report preparation
U Soe Lwin Myint	MSc (Geology)	Water Resources and waste water
U Nay Soe Tun	BSc (Geology)	Sample analysis

Chapter 2 Background and Description of the Garment Factory

2.1 Introduction

Textile Garments are produced in large quantities and are included in many types of products. The consumption of consumer textile products is high. There are no indications of a downward trend in the consumption of textile products in the foreseeable future. Large quantities of chemicals are used in the manufacture of textiles. Some are harmful to the human health and/or the environment, while others are currently not considered to have hazardous properties. Some of the chemicals used in the manufacture and finishing of textiles may remain in the final textile product, intentionally or unintentionally, when the products reach the consumer. It is difficult to know exactly which chemicals are present in the textiles since the supply chains are long, complex and global. Information regarding chemicals in textiles is therefore often decreasing when going down the supply chain. Many textiles companies require their suppliers to comply with so called Restricted Substances Lists. Textiles make up a very broad category of products and are used in a way that consumers, including children, are directly or indirectly exposed to their chemical content. Chemicals in textiles can have adverse effects by directly affecting health, such as causing allergic reactions. But they can also adversely affect the environment, for example by long term effects from persistent or bio-accumulating substances. To deal with the problems posed by hazardous chemicals in textiles, there is a need for regulation of chemical content in textile products at the EU level.

2.2 Background

The Project aims to promote growth and balanced development of the whole National Capital Region through providing economic base in the identified major settlements Regional Centers for absorbing economic development impulse of Yangon, efficient transport network, development of physical infrastructure, rational land use pattern, improved environment and quality of life. In line with the objectives of the Regional Plan, the primary objective of this project are to improve quality of life and well-being of urban residents in the National Capital Region (NCR): This will be achieved by way of support to various agencies in the constituent States through the Myanmar Investment Commission Board (MICB) a line of credit to compliment the ongoing efforts of MICB in financing the regional Plan priorities and technical assistance to improve quality of planning, design and management interventions in the region.

The proposed project is designed to demonstrate (i) the business and environmental advantages of cleaner production and (ii) a financially and technically sustainable model of central effluent treatment facilities in the greater Dhaka watershed. It will help to develop further capacity of the Ministry of Environmental Conservation and Forest (MOECAF) in monitoring and enforcing pollution control. The project will have four components: (i) Monitoring and Environmental Compliance; (ii) Industry Pollution Prevention and Abatement Demonstration Program; (iii) Design, Construction and Operationalization; and (iv) Program Management, Monitoring and Evaluation and Stakeholder Engagement.

This Draft Initial Environmental Examination (IEE) assesses the environmental impacts due to the proposed ZKG Garment Factory project. The IEE specifies measures towards addressal of the impacts. The IEE has been prepared based on a review of sub-project designs; field visits, and secondary data to characterize the environment and identify potential impacts; and consultations with stakeholders. An Environmental management plan (EMP) outlining the specific environmental measures to be adhered to during implementation of the sub-project has been prepared. Project being a Design-build-Operate contract, IEE/EMP is prepared based on preliminary design and will be updated/revised during the detailed design stage.

2.3 Extent of IEE Study

The project implementation shall comply with the policies of Government of Myanmar, Government of Yangon and procedures/policies of MICB. Government regulations and the MICB policy require that impacts of the development projects have to be identified at the

beginning and mitigation measures be incorporated in the project to reduce those impacts to acceptable levels. This is generally done through the process of environmental impact assessment.

2.4 The purpose of this report

One objective of this report is to protect people in their everyday lives from direct and indirect exposure to hazardous substances in products, including textiles. This applies particularly to sensitive and vulnerable groups such as children and people who in their professions handle large amounts of textile goods. It concerns primarily substances that are carcinogenic, mutagenic, toxic to reproduction, substances that may cause sensitisation by skin contact or by inhalation and substances that can cause disruptions in the endocrine system. Another objective is to prevent chemical residues in textile products from causing long term adverse effects in the aquatic environment and accumulation in the environment.

2.5 Propose of IEE

IEE is an important tool for incorporating environmental concerns at the project level. IEE should be carried out as early as the project planning stage as part of feasibility thus it can assure that the project will be environmentally feasible. The general objectives of IEE study should at least cover the following:

(i) to provide information about the general environmental settings of the project area as baseline data;

(ii) to provide information on potential impacts of the project and the characteristic of the impacts, magnitude, distribution, who will be the effected group, and their duration;

(iii) to provide information on potential mitigation measures to minimize the impact including mitigation costs;

(iv) to assess the best alternative project at most benefits and least costs in terms of financial, social, and environment. It is not always necessary to change location of the project, but changes be made in project design or project management; and

(v) to provide basic information for formulating management and monitoring plan.

The IEE is conducted if the project is likely to have minor or limited impacts, which can easily be predicted and evaluated, and for which mitigation measures are prescribed easily. However, the IEE is also used to confirm whether the project, requires an EIA.

2.6 Methodology

This report is prepared on the basis of the information supplied by the project proponent and by undertaking visit to the project site for a reconnaissance survey of the surrounding areas. This was followed by evaluation of the information to determine the possible environmental impacts due to the proposed project. Rapid Rural Appraisal (RRA) method was used to conduct the survey.

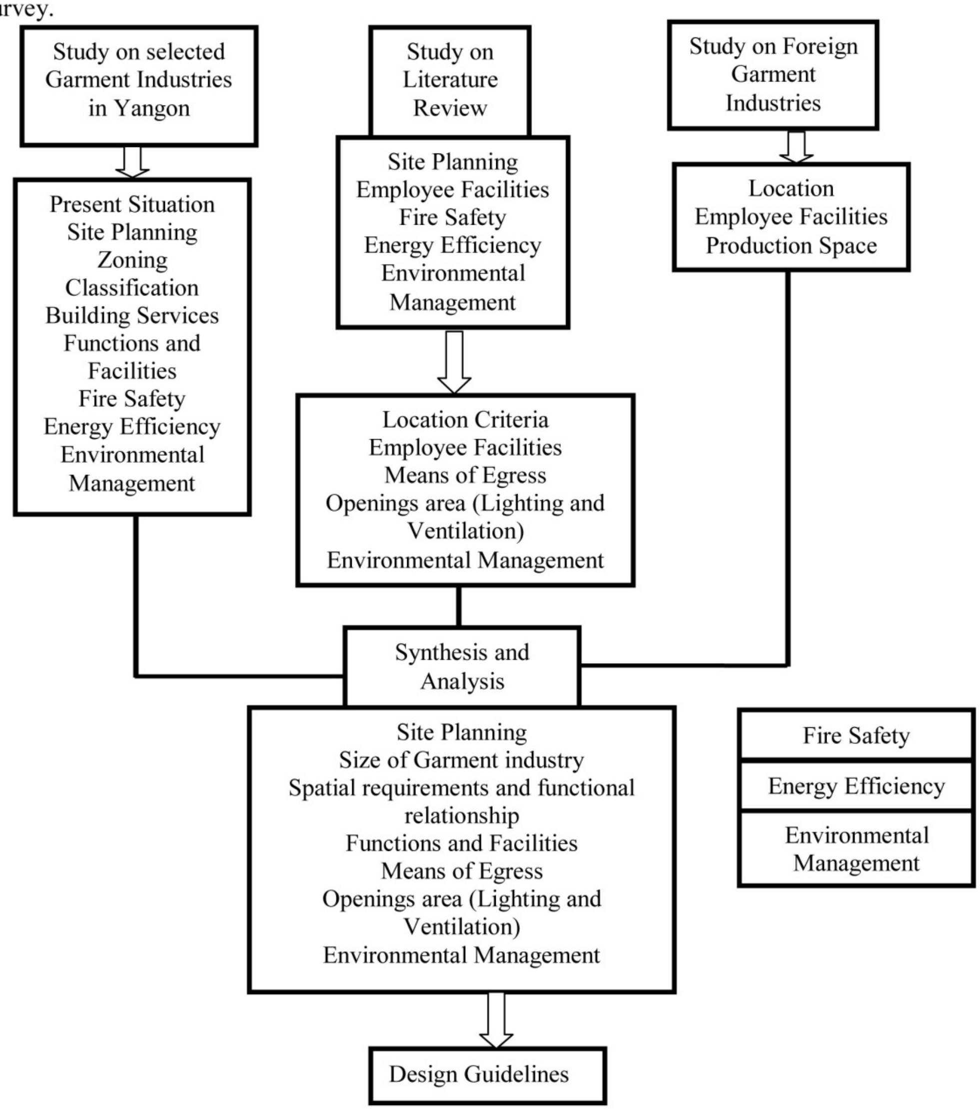


Figure 2: Research Methodology Research Methodology

2.7 Scope of the Study

The study includes detailed characterization of existing status of environmental in an area of radius around proposed project for various indentified environmental components viz, air, noise, biological and socio-economic. Under the scope of the IEE, it is envisaged;

(i) to assess the present status of air, noise, water, land ,biological and socio-economic components of the environment;

(ii) To identify, quantify and evaluate significant impacts of operations on various environmental components;

(iii) to evaluate proposed pollution control measures and delineate environmental management plan(EMP) outlining additional control measures to be adopted for mitigation of adverse impact;and

(iv) to delineate post-project environmental quality monitoring programme.

2.8 Field survey

A AMK EIA team visited the project area for updating/verification of the baseline information on physical, biological, socio-economic and cultural environment of the proposed project, the anticipated environmental impacts and practical mitigation measures while implementing the specified activities. Interaction meetings, Focus Group Discussions and key informant interviews were undertaken with local people and measurement of infrastructures were also carried out. Field survey comprised of walk through survey, consultation with community, site inspection and observation. The proposed project site and its Zone of Influence was visited and observed in March, 2014. The following tools were used for the collection of primary data.

- Focus group discussion - To conduct consultation with the local communities at different settlements, discussion was organized with key informants and other knowledgeable persons. It was done to collect biological, socio-economic and cultural environment related information using a checklist.
- Zone of Influence household survey - Questionnaire was used to collect socio-economic information of all the households within the Zone of Influence.
- Household listing survey - Total enumeration was done for the listing of agricultural land, forest, trees, houses and other affected properties.
- Topographical map - It was used to show environmental features on the map during walkthrough survey.
- Photographs - Necessary photographs were taken to show different environmental features.

Chapter-3 Applicable Environmental Regulations and Standards

In Myanmar, systematic management of environmental impacts of economic development is still at an early stage compared to most countries. A national environmental policy was formulated in 1994. Its purpose was to establish sound environment policies in the utilization of water, land, forest, mineral resources and other natural resources in order to cons ere the environment and prevent its degradation,. The policy is therefore sect based, is not comprehensive, and does not provide a framework for integrating environmental aspects with economic development activities. Environmental Conservation Law was enacted in 2012 and it is now the main environmental law of the country.

The objectives of the Environment Conservation law

- Implement the Myanmar National Environment Policy
- Provide basic principles and give guidance for systematic Integration of environmental conservation matters in the sustainable development process
- Promote a good and clean environment and to conserve natural and cultural heritage for the benefit of both present and future generations..
- Reclaim ecosystems that are in the early stages of degradation as far as possible
- Manage prevention of degradation of natural resources and to enable the sustainable use
- Implement for promotion of public understanding and educational programs for dissemination of environmental awareness.
- Promote international, regional and bilateral cooperation in environmental affairs.
- Enable cooperation among government departments, government organizations, international organizations, non governmental organizations and individuals in matters of environmental conservation.
- And the other existing laws and regulations in Myanmar relevant to environmental matters deal with specific subjects or sectors. The laws relevant to environmental issues of this projects are

  1. The Constitution of the Union of Myanmar -2008
  2. The forest Law (1992)
  3. The Protection of Wildlife and Conservation of Natural Areas Law(1994)
  4. The Protection and Preservation of Cultural Heritage Region Law (1998)
  5. Factory Act (1951)
  6. Fertilizer Law (2002)
  7. Public Health Law(1952)

- Objective of the factories act is to ensure the safety, health and welfare of the workers working in factories and Industrial establishments.
- Objective of the electricity law is to supervise electric power generation, transmission, distribution and utilization of the general safety of public.
- Private Industrial Enterprise law, (Sect 3) provides to refrain or reduce from applying technologies which cause environmental pollution and (Section 11) requires considering in issuing certificate for registration of private industries, the fact of (no1) affecting the environment and not causing pollution.
- Factor act (Sect -4) requires making effective arrangements for the disposal and cleaning of wastes generated by a factory.
- Petroleum Act regulate the production, storage, transport of fuel(Diesel, LNG) so as not to cause the pollution and fire.
- The concern government body , responsible of environment control to factory are Ministry of Industry, Yangon City Development, DHSHD and Ministry of forest and Environmental conservation.

3.1 Institutional Frame Work

Regarding to the municipal waste management network, the following laws are still effective and being practiced;

a) MOCAF Law (2012)

Beside these, the City and Township Development Committees promulgated the solid waste disposal and collection by-law as its measure for legal basis at local level.

Environmental effects and awareness as the base, forestry concerned, energy concerned policies and measures have been stipulated as a foundation in Myanmar. However, the specific industrial concerned, 3R technology practicing related policies as well as Laws, Rules of Law have not been framed. According to the national economic trend which is configured as industrialization framework encouraged since the new Government's initiation, Strategic National Industrial Policy and Law is being arranged to promulgate in which 3R concerned principles have to be included. We really hope that regarding to this 3R method and mutual understanding and international situation shall strongly affect on our future plan of actions.

Solid waste at factory are iron scrap , material, paper, carton box-, paper roll, plastic and they can be sold to recycling contractor and organic waste and some small piece of material are disposed to land fill by Company's arrangement, sewage also.

Major law relating to Environmental concern Department in Myanmar is Environment Conservation law (2012) and other are ;

1. Myanmar Insurance Law (1993)
2. The factories Act (1951) at section 4 and section (3) of industrial enterprise law (1990)
3. Work men's compensation act (1923)
4. Union of Myanma Public Health law (1972)
5. Prevention and control of communicable Disease law (1995) (Revised in 2011)
6. Foreign Investment Law, Rules (2013) Notification No (1/2013)
7. Environmental Conservation directive from Industrial Sector.
8. Guideline to overview of labour laws in Myanmar published by the ministry of labour (2004)
9. Petroleum law (1937) – (fuel storage)Electrical Law (   )
10. The underground water act (1930)
11. The conservation of water resources and River (2006)

3.2 Legal Compliance

Compliance with all applicable laws and regulations, industry minimum standards, ILO and UN Conventions, and any other relevant statutory requirements whichever requirements are more stringent. In the agricultural context, ILO Convention 110 shall be respected.

3.3 Freedom of Association and the Right to Collective Bargaining

All personnel shall have the right to form, join, and organize trade unions of their choice and to bargain collectively on their behalf with the company. The company shall respect this right, and shall effectively inform personnel that they are free to join an organization of their choosing and that their doing so will not result in any negative consequences to them, or retaliation, from the company. The company shall not in any way interfere with the establishment, functioning, or administration of such workers' organizations or collective bargaining. In situations where the right to freedom of association and collective bargaining are restricted under law, the company

shall allow workers to freely elect their own representatives. The company shall ensure that representatives of workers and any personnel engaged in organizing workers are not subjected to discrimination, harassment, intimidation, or retaliation for reason of their being members of a union or participating in trade union activities, and that such representatives have access to their members in the workplace.

- In accordance with ILO Conventions 11, 87, 98, 135 and 154.

3.4 Prohibition of Discrimination

No discrimination shall be tolerated in hiring, remuneration, access to training, promotion, termination or retirement based on gender, age, religion, race, caste, birth, social background, disability, ethnic and national origin, nationality, membership in workers' organizations, including unions, political affiliation or opinions, sexual orientation, family responsibilities, marital status, or any other condition that could give rise to discrimination.

- In accordance with ILO Conventions 100, 111, 143, 158, 159, 169 and 183.

3.5 Compensation

Wages paid for regular working hours, overtime hours and overtime differentials shall meet or exceed legal minimums and/or industry standards. Illegal, unauthorized or disciplinary deductions from wages shall not be made. In situations in which the legal minimum wage and / or industry standards do not cover living expenses and provide some additional disposable income, supplier companies are further encouraged to provide some additional disposable income, supplier companies are further encouraged to provide their employees with adequate compensation to meet these needs. Deductions from wages as a disciplinary measure are forbidden, unless this is permit by national law and a freely negotiated collective bargaining agreement is in force. Supplier companies shall ensure that wage and benefits composition are detailed clearly and regularly for workers; the supplier company shall also ensure that wages and benefits are rendered in full compliance with all applicable laws and that remuneration is rendered in a manner convenient to workers. All overtime shall be reimbursed at a premium rate as defined by national law. In countries where a premium rate for overtime is not regulated by law or a collective bargaining agreement, personnel shall be compensated for overtime at a premium rate or equal to prevailing industry standards, whichever is more favorable to workers' interests.

- In accordance with ILO Conventions 12, 26, 101, 102 and 131.

3.6 Working Hours

The supplier company shall comply with applicable national laws and industry standards on working hours and public holidays. The maximum allowable working hours in a week are as defined by national law but shall not on a regular basis exceed 48 hours and the maximum allowable overtime hours in a week shall not exceed 12 hours. Overtime hours are to be worked solely on a voluntary basis and to be paid at a premium rate. In cases where overtime work is needed in order to meet short-term business demand and the company is party to a collective bargaining agreement freely negotiated with worker organisations (as defined above) representing a significant portion of its workforce, the company may require such overtime work in accordance with such agreements. Any such agreement must comply with the requirements above.

An employee is entitled to at least one free day following six consecutive days worked. Exceptions to this rule apply only where both of the following conditions exist:

a) National law allows work time exceeding this limit; and
b) A freely negotiated collective bargaining agreement is in force that allows work time averaging, including adequate rest periods.

- In accordance with ILO Conventions 1 and 14 and ILO Recommendation 116.

3.7 Workplace Health and Safety

The company shall provide a safe and healthy workplace environment and shall take effective steps to prevent potential accidents and injury to workers' health arising out of, associated with, or occurring in the course of work, by minimizing, so far as is reasonably practicable, the causes of hazards inherent in the workplace environment, and bearing in mind the prevailing knowledge of the industry and of any specific hazard.

A clear set of regulations and procedures must be established and followed regarding occupational health and safety, especially the provision and use of personal protective equipment, access to clean toilet facilities, access to potable water and if appropriate, sanitary facilities for food storage shall be provided. The company shall ensure that any dormitory facilities provided for personnel are clean, safe, and meet and basic needs of the personnel. All personnel shall have the right to remove themselves from imminent serious danger without seeking permission from the company.

Workplace practice and conditions in dormitories which violate basic human rights are forbidden. In particular young workers shall not be exposed to hazardous, unsafe or unhealthy situations.

- In accordance with ILO Conventions 155, 184 and ILO Recommendations 164 and 190.

In particular, a management representative responsible for the health and safety of all personnel and accountable for the implementation of the Health and Safety elements shall be appointed. All personnel shall receive regular and recorded health and safety training, moreover, such training shall be repeated for new and reassigned personnel.

Systems to detect, avoid or respond to potential threats to health and safety of all personnel shall be established.

3.8 Prohibition of Child Labour

Child labour is forbidden as defined by ILO and United Nations Conventions and/or by national law. Of these various standards, the one that is the most stringent shall be followed. Any forms of exploitation of children are forbidden. Working conditions resembling slavery or harmful to children's health are forbidden. The rights of young workers must be protected. In the event that children are found to be working in situations which fit the definition of child labour above, policies and written procedures for remediation of children found to be working shall be established and documented by the supplier company. Furthermore, the supplier company shall provide adequate financial and other support to enable such children to attend and remain in school until no longer a child.

The company may employ young workers, but where such young workers are subject to compulsory education laws, they may work only outside of school hours. Under no circumstances shall any young worker's school, work, and transportation time exceed a combined total of hours per day, and in no case shall young workers work more than 8 hours a day. Young workers may not work during night hours.

- In accordance with ILO Conventions 10, 79, 138, 142 and 182 and Recommendation 146.

3.9 Prohibition of Forced and compulsory Labor and Disciplinary Measures

All forms of forced labour, such as lodging deposits or the retention of identity documents from personnel upon commencing employment, are forbidden as is prisoner labour that violates basic human rights.

Neither the company nor any entity supplying labour to the company shall withhold any part of any personnel's salary, benefits, property, or documents in order to force such personnel to continue working for the company.

Personnel shall have the right to leave the workplace premises after completing the standard workday, and be free to terminate their employment provided that they give reasonable notice to their employer.

Neither the company nor any entity supplying labour to the company shall engage in or support trafficking in human beings.

The company shall treat all personnel with dignity and respect. The company shall not engage in or tolerate the use of corporal punishment, mental or physical coercion and verbal abuse of personnel.

- In accordance with ILO Conventions 29 and 105.

3.10 Boiler and Safety

The following requirements should be strictly observedwhen using new boilers into Government of the Republic of the Union of Myanmar

3.10.1 Acceptable National Code

(a) I.S.O (International Standard Organization) R.831

(b) B.S (British Standards) 2790.

(c) A.S.M.E (The American Society of Mechanical Engineers)

(d) J.I.S(Japanese Industrial Standards (8201

(e) DIN / TRD (DIN technical Rules for Steam Boilers)

(f) S.A.A (Australian Standard)

(g) The Indian Boiler Regulation

3.10.2 Documents to be supplied by boiler manufacturer

Every new boiler imported into the country must be accompanied following document

(a) Inspection authority's certificate of inspection during construction.

(b) Constructor's certificate of manufacture and test (Tensile strength chemical composition)

(c) Steel maker's certificate of manufacture and results of test.

(d) A drawing print to scale in case of large boilers not less $1/20^{th}$.

Full size and in the case of small boilers . Of not less than $1/10^{th}$.

Full size showing all the principle dimensions of the longitudinal section and end view of the boiler and bearing the work number of the boiler and also the marker's office stamp .The drawing shall show all the marker's office stamp. The drawing shall show all the details of the longitudinal and circumferential seams and also of the various stays and supports.

(e) In the case of the fusion welded and seamless forged drums a certificate from the manufacturer furnishing the results of test in regard to chemical analysis, tensile, bend and Izod impact test and also radiographic examination and heat treatment test result.

3.10.3 Marker's Stamp

Every boiler shall have stamped upon its front and plate in a conspicuous position the following particulars:-

(a) The name of the Manufacturer

(b) The Manufacturer's serial number

(c) The Country of origin

(d) The design gauge pressure

(e) The year of manufacturer

(f) The inspecting authority's stamp

3.10.4 Submission of Plans of Boilers

Boiler drawings of prints and all other documents specified in item (2) should be submitted in advance to the Chief Inspector of Boilers, Boilers Inspection Department, Yangon, Myanmar for examination so as to avoid questions arising at the actual inspection of the finished boilers.

3.10.5 Requisite Mounting and Fitting

(a) Safety valve (preferably not less than two) capable of relieving the maximum evaporation of the boiler.

(b) Two means of indicating thewater lefel

(c) A Steam pressure gauge.

(d) A Steam stop valve.

(e) A feed stop check valve.

(f) One feed apparatus (when heating surface exceeds 200 sq ft two independent feed apparatus

(g) A blow down cock or valve

(h) In the case of boilers fitted with internal super heaters an additional safety valve shall be fitted at the end of the super heater outlet header.

3.10.6 Important Notes

1. The boiler Inspection Department discourages imports of boilers with surmounted engines. When ever engines are to be imported pairs with boilers, it should be made clear that engines are to be set on separate foundations.
2. All the specified documents, drawings, pints, test result etc. should be in English or in accurate translations into English by the manufacturer from national language.

3.11 Environment and Safety Issues

Procedures and standards for waste management, handling and disposure of chemicals and other dangerous materials, emissions and effluent treatment must meet or exceed minimum legal requirements.

Myanmar has promulgated several laws and regulations concerning protection of the environment. The relevant laws that promote environmental management in Myanmar have been adequately reviewed and applied by the IEE/EIA Team including the following;

Table 2: Review of Environmental acts, Regulations and Guidelines in Myanmar

Law and Regulations	Years	Purposes
Factory Act	1951	To make effective arrangements in every factory for disposal of waste and effluent, and matters on health, cleanliness and precaution against danger.
Public Health Law	1972	To promote and safeguard public health and to take necessary measures in respect of environmental health.
Private Industrial Enterprise Law	1990	To narrow down the gap between rural development and urban development by the development of industrial enterprises; to avoid or reduce the use of technical know-how which cause environmental pollution; to cause the use of energy in the most economical manner.
Forest Law		To implement forest policy and environmental conservation policy, to promote public cooperation in implementing these

	1992	policies, to develop the economy of the State, To prevent destruction of forest and biodiversity, to carry out conservation of natural forests and establishment of forest plantation and to contribute towards the fuel requirement of the country.
National Environmental Policy	1994	To establish sound environmental policies in the utilization of water, land, forest, mineral resources and other natural resources in order to conserve the environment and prevent its degradation.
Protection and preservation of Cultural Heritage Regions Laws	1998	To implement the protection and preservation policy with respect to perpetuation of cultural that has existed for many years; to protect and preserve the cultural heritage region and the cultural heritage.
Conservation of Water Resources and Rivers Law	2006	To conserve and protection and preservation policy with respect to perpetuation f cultural heritage that has existed for many years; to protect and preserve the cultural heritage regions and cultural heritage.
Environmental Conservation Law	2012	To conserve and protect the water resources and rivers system for beneficial utilization by the public; to prevent environmental impact.
		To implement National Environmental Policy; to set up principles and guidelines for sustainable development; to conserve the clean environment, natural and cultural heritage for present and future generation.

Regarding to the municipal waste management network, the following laws are still effective and being practiced;

b) The Yangon Water-work Act (1885)
c) The City of Yangon Municipal Act (1922)
d) The Water Power Act (1927)
e) The Underground Water Act (1930)
f) The City of Yangon Development Law (1990)
g) The Development Law (1993)
h) The City of Mandalay Development Law (2002)
i) The Nay Pyi Taw Development Law (2009)
j) MOCAF Law (2012)

Beside these, the City and Township Development Committees promulgated the solid waste disposal and collection by-law as its measure for legal basis at local level.

Environmental effects and awareness as the base, forestry concerned, energy concerned policies and measures have been stipulated as a foundation in Myanmar. However, the specific industrial concerned, 3R technology practicing related policies as well as Laws, Rules of Law have not been framed. According to the national economic trend which is configured as industrialization framework encouraged since the new Government's initiation, Strategic National Industrial Policy and Law is being arranged to promulgate in which 3R concerned principles have to be included. We really hope that regarding to this 3R method and mutual understanding and international situation shall strongly affect on our future plan of actions.

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14. Work men's compensation act (1923)
15. Union of Myanma Public Health law (1972)
16. Prevention and control of communicable Disease law (1995) (Revised in 2011)
17. Foreign Investment Law, Rules (2013) Notification No (1/2013)
18. Environmental Conservation directive from Industrial Sector.
19. Guideline to overview of labour laws in Myanmar published by the ministry of labour (2004)
20. Petroleum law (1937) – (fuel storage)Electrical Law ( )
21. The underground water act (1930)
22. The conservation of water resources and River (2006)

3.12 Government of Myanmar Requirements

For establishments requiring licenses, IEE/ EIA report must be prepared and submitted to the Ministry of Environmental Conversation and Forestry (MOECAF) for reviews. Once MOECAF has approved the project, a license to continue the project can be issued. No additional environmental or social clearances are required other than the EIA approval to proceed the project activities. The law requires that any new project should comply with all the relevant articles pertinent to environmental attributes, which could be impacted form project activities. As a reference practice, environmental impact assessments for proposed power plant projects typically have a scope and organization similar to Asia Development Bank(ADB) environmental assessment.

In addition to environmental impact assessment requirements, the EIA team has prepared air pollution and water pollution limits applicable to the gas engine power plant project. Most of the limits are based on World Bank Pollution Standards (1998) and EPA Standards.

3.13 Environmental Policy

National Capital Regional Planning Board (NCRPB) will continually strive to ensure and enhance effective environmental management practices in all its operations". This is aimed to achieve through:

• Minimizing negative environmental (including health & safety) impacts in its operations and risks to the environment (particularly eco-sensitive areas and culturally important areas) and people who may be affected through formulating and implementing commensurate plans.

• Ensuring that environmental safeguards - defined as requirements of applicable Indian environmental legislation and multilateral / bilateral funding agencies - are being adequately integrated by the project proponent / IA in the planning, design, construction prior to its financing and in its implementation during the operational phase.

• Ensuring that compliance to all applicable national and local environmental legislation.

• Encouraging that public and stakeholder consultation be carried out by the project proponent / EIA and disclosing the required information in all stages of the project cycle.

• Integrating environmental risk into its overall internal risk management Analysis.
• Including environmental management considerations in all aspects of operations and interactions with the project proponent / IAs in all stages of the project cycle.
This policy statement emphasizes NCRPB's sensitivity, concern and commitment to environmental safeguards. NCRPB will strive to ensure that the projects that it supports meets government policies and as well as of the bilateral/multilateral agencies such as ADB.

3.14 Environmental Assessment Requirements

(a) Significant impacts or in eco-sensitive areas

If the project has significant adverse environmental impacts that are irreversible, diverse, or unprecedented, then it is regarded to have environmental scenario. These impacts may affect an area larger than the sites or facilities subject to physical works. These impacts will be considered significant if these are in eco-sensitive areas.

(b) Limited environmental impacts

If the project has impacts that are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed.

(c) No environmental impacts

If the project is likely to have minimal or no adverse environmental impacts, then it is regarded to have this environmental scenario.

(d) Assessment of the Impacts

In practice, the ADB checklist is used to determine if a project has potential or significant environmental impacts. A team of experts or at least an expert is involved in the process for Collection of Public Opinions

For impact assessment, direct measurement could not be made. The assessment was based on visual checks, opinions, and experiences of some people. In conducting this report, some questionnaires were used to illicit opinions, information from a number of people, grouped into three levels. The levels were ranked on the basis of education, experiences and reliability. Numbers of level were described into three groups as follow:

1. High Expert Level
2. Medium Expert Level
3. Low Expert Level

3.15 Environmental Regulatory Compliance

The EIA Notification of the MoEF, September 2006, does not warrant environmental clearance from the MoEF for drinking water supply projects. Further the general conditions specifying triggers1 for Category A projects are not envisaged due to the proposed sub-project. The ADB guidelines, stipulate addressing environmental concerns, if any, of a proposed activity in the initial stages of Project preparation.

The IEE was based mainly on secondary sources of information and field reconnaissance surveys. Stakeholder consultation was an integral part of the IEE.

3.16 Report preparation

The proposed project of augmentation of ZKG Garment Factory project and its adjoining villages is unlikely to have significant impacts. The project site is also not located near heritage buildings or near any eco- sensitive area.

The project is however likely to have typical impacts associated with the construction activity in urban areas

3.17 IEE Report Structure

This IEE report presents the existing scenario and the results from the assessment and evaluation of the environmental impacts that may arise during the construction and operation of the proposed development. Following impact prediction, the requirement for mitigation measures to address any unacceptable environmental impacts are presented. This report also highlights the Environmental Monitoring Program considered to be necessary during the construction and operational phase. The content of the report is as follows:

a. ***Executive Summary :*** Summary of the IEE report.

b. Structure of the IEE report

Existing 1: Introduction and Objective of the Study

Existing 2: Project Description

Existing 3: Legal and Administrative Framework

Existing 4: Environmental Status

Existing 5: Pollution Sources, Characteristics and Impact Prediction and Assessment

Existing 6: Environmental Management Plan (EMP) and Emergency Response Plan

An EMP outlining the specific environmental measures during implementation of the sub-project has been prepared. The report to the government shall include the following;
- A review of the hazardous chemicals that may be present in textiles
- An evaluation of the risks that hazardous chemicals in various textiles present
- A negative list of chemicals that should be limited in textiles
- A legislative proposal for a regulation at EU level
- The proposal for legislation should be accompanied by an impact assessment, in the parts that are possible to analyze within the frame of the assignment. The assignment should be made in dialogue with the textile garment industry and in consultation with the Environmental Protection Agency. There are currently no environmental and health requirements concerning textiles in the regulation. The regulation is already known and practiced by the textile industry, which is an aspect that makes it appealing as a regulatory tool to target the issue of chemical content in textiles. It would likely be beneficial to combine such a regulation with the current fibre labeling regulation if chemical content in textiles is to be regulated, since it would provide one common piece of legislation for the textile sector to comply with.

3.17.1 Type of the Project

Proposed Garment factory is to manufacture Jacket, Pant,outdoor Assessories of socks, sleeping bags, hats, head masks and gloves for export.

3.17.2 Category of the Project

According to Environmental Guidelines for this project in Myanmar fall in category. Based on the checklists of ADB classification on this project are categorized under environment category B. Thus the IEE serves as the complete Environment Assessment for the proposed project.

3.17.3 Need for the Project

This project improvement, it will also aim at contributing to manufacturing industry development at national level and help to uplift the living conditions of the people in the area and surrounding.

3.17.4 Objective of Proposed Garment Factory

The objectives of the proposed garment factory are summarized as follow.

a. Production
   - To establish economic viability of export garment products.
   - To produce garment product form available labour force in Yangon.

b. Economic and safety

- Protect the surrounding environment in general during proposed project opration
- Minimize operational risk and maximize safety of work person.

c. Socio-economic

- Improvement of indirect means of livelihood.
- Acceptable working time and labour wages.

d. Method logy and Scope of Work

This study has been carried out as per prevailing and available local acts, rules and standards. In complying with international standards guidelines have been considered for environmental and social consideration, IFCC guide line, Buyer's instruction and ISO 90001, ISO 14001 are also based on Factory's HSE policy.

Site visit, collection of primary and secondary environmental data, existing environmental condition, and study of local practice, literature study and relevant information of garment factory has been collected for environmental and social protection.

The objectives of the IEE study are as follows:

(i) To describe the proposed project and associated works together with the requirements for carrying out the proposed development;

(ii) To identify and describe the elements of the community and environment likely to be affected by the proposed project.

(iii) To establish the baseline environmental and social scenario of the project site and its surroundings.

(iv) To identify and quantify emission sources and determine the significance of impacts on sensitive receptors.

(v) To identify, predict and evaluate environmental and social impacts during the construction and usage of the project in relation to the sensitive receptors.

(vi) To develop an Environmental Management Plan, that identifies negative impacts and develop mitigation measures so as to minimize pollution, environmental disturbance and nuisance during construction and operations of the development.

(vii) To design and specify the monitoring and audit requirements necessary to ensure the implementation and the effectiveness of the mitigation measures adopted.

3.17.5 The process of EMP

The process and Result of IEE intended to EMP (Environmental Management Plan).

a. Establish and review eyeing environment and social condition within Industrial Zone and surrounding.
b. Identify and assess the environmental impacts due to proposed Garment factory.
c. Advise and assist in identifying appropriate measures to mitigate adverse impacts to be adopted under EMP for all specified impacts likely to emerge.
d. The study has be carried out by adopting performance standard and guidance Note of IFC (2012), Available local applicable laws and standards have also been considered and complied.
e. Identify who is responsible for carrying out the mitigation and monitoring measured within the allocated budget.

Project Status:

Sufficient detail of the project is the following and the proposed project is implementing stage now. The Owner is renting the plot with existing warehouse, guard house and Generator house,

labour living Quarters. They will renovate the existing building and build the new 3 storey (or) 2 storey according soil test result in this area.

Clear picture of project condition is based on site visit and discussion with project engineer from Owner side.

1. Type and category of the project.
2. Objective of the project.
3. Assessment of alternatives.
4. Location use maps and photographs showing general and specific location.
5. Project layout plan including land uses on the site and its surrounding,
6. Road access, topographic and vegetation features if any.
7. Size or magnitude of the operation including project cost and any associated activities.
8. Proposed schedule for implementation.
9. Various components of the project including infrastructure, basic amenities and other facilities to be provided. (Toilet, Dinning Room, Washing Room, Clinic)
10. Operation and waste management facilities.
11. Details of the project life, Government approval and necessary lease.

The above mentioned methodology is conducted with Owner, Factory Project Engineer, Management group for administrative matter, data collection from concerned government department and literature.

Discussion with Management Group and finding are as follow.

3.17.5 Mitigation Measures

The predicted adverse environmental impacts will be mitigated if not avoided. The cost for mitigation measures is estimated to be 0.22 percent of the total project cost. The cost for safe disposal of Health and Safety material and control of air, water and noise pollution and other measures will be included in project cost.

Chapter-4 Existing conditions of ZKG Garment Factory

Type of Business and Land Lease

The type of Business is 100% foreign investment. Area of land is 2.0041 Acre (87138 square feet) and land lease fee is (120,000 USD per year). Type of land is industrial zone – land and implemented by DEHSD. Project life is 30 years.

Project site

The proposed garment factory is available with basic infrastructure within the existing factory area. The proposed factory is located within the industrial zone area, No.(50)Shwe Myodaw Zaydi Lan, Yangon, Industry Zone(Mingalar don Garden Park) Mingalar Don Township, Yangon Division. The site is located at the inter section of longitude (16 °51' 21.07" N) and latitude(96°03'29.30"E).

The project site is 500 meters from Aung Mingalar Highway Compound and nearest Townships are North Okkala Pa ,Palae` Myo Thit, Mayan Gone,Insein and Shwephyithar Township.

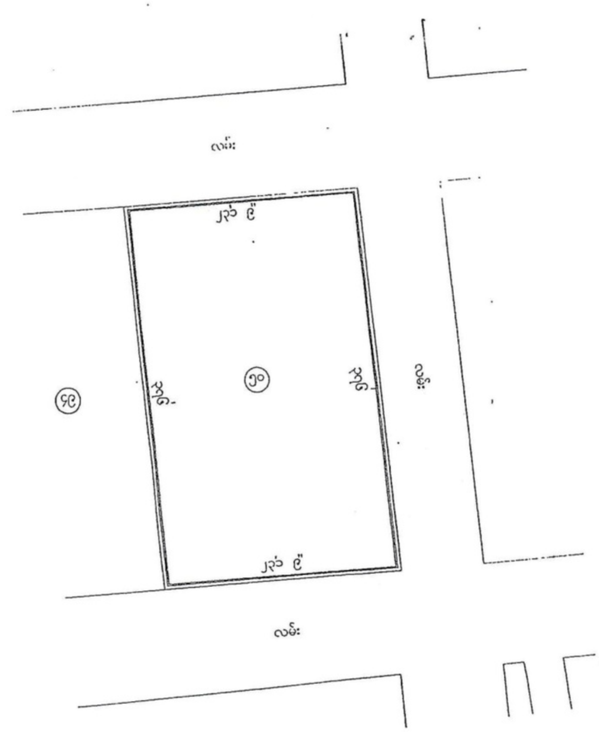


Figure 3: Location Layout Plan by YCDC

Project Activity

- ✓ over view of garment industry in Myanmar
- ✓ Project Implementation
- ✓ Project cost / labor force
- ✓ Waste analysis

- ✓ Fabric consumption / financial cost
- Energy consumption

Water consumption

4.1 Site Planning

Site planning includes physical analysis, location analysis, infrastructure services, transportation accessibility, labour force supply, fixed cost and capital supply.

4.2 Landscaping

Landscaping can be used not only to enhance a building's exterior, but also to improve energy efficiency and make the environment more pleasant for workers and visitors. The economic rewards are not bad; either good landscaping can boost a property‟s value by up to 15 percent . Table 3 shows that there is landscaping area for employees' relaxation in most of the garment industries. Only Myanmar ZKG garment Factory has outdoor function for employees' relaxation. Because of the wide and huge site, there is enough space for circulation space and parking and enough to park for the vehicles.

Table 3 Landscaping, Parking and Vehicular Circulation

Description	ZKG Garment factory
Landscaping	Fair
Parking	2 unit spaces, enough
Vehicular Circulation	Enough because of the wide road and huge site



Figure 4: Landscaping of ZKG Garment

4.3 Building Services

Figures 5 ,6 and 7 show the building services of ZKG garment Factory. There is enough water for Factory from Own well and Factory have water tank to store them. Since there is own transformer and supply of Yangon City Electrical Supplement Board (YESB), electricity is in good strength for the Factory. They operate own generator when electricity is power off. There are Telephone, Fax and Net for telecommunication system. For their safety, enough security control is provided.

Table 4 Building Services of ZKG Garment Factory

Description	Clothing
Water Supply	Get water from Own Tube well and have purify drinking water
Power Supply	YESB and have own Two generator and Three transformer 500 KVA for main building and the other buildings.
Telecommunication System	Telephone, fax and net
Security Control	Private group





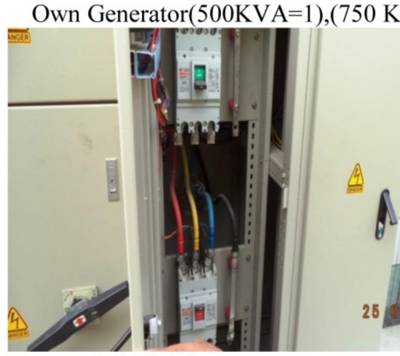




Own Transformer(500KV=1)

Own Generator(500KVA=1),(750 KVA=1)





Pannel Board 9300 KVA

Electrical Cable Line

Figure 5: Electrical Power Supply



Purify Drinking water



Dining Room



Toilet

Figure 6: *Building Services*

4.4 Water Supply

Source of Water Supply

Two 4 in diameter tube wells, 10-1500 gph capacity, running 6 to 8 hours per day, can be considered sufficient to meet the water demand of ZKG Garment Factory.Clean enough as by using Treatment System as shown in *Figure 7*:.

Ground Storage

18,750 liter tank is located at back of the main building with another two 5,780 Liter reserve storage tank at the right part of the factory building.

Overhead Storage

One 4500 liter overhead storage tank is located at the back end section of the building and the other to the rear half. It is recommended to increase the present capacities of the overhead tanks to have sufficient storage for regular service as well as a reserve for fire protection.



Figure 7: *Water Resources and Pre-treatment*

4.5 Employee Facilities

Both the quantity and the quality of the product depend not only on the sequence precision, and efficiency of the factories, tools and machines but on the proficiency, pride, and fitness both

mental and physical of the personnel. The development of factory design in recent years has become more and more concerned with creature comforts for the employees.

The facilities should be near the work space, so that no time is lost getting back and forth but they should be sufficiently insulated from the sights and sounds of the work area itself so that a real change of scene is provided. If a pleasant outside view is available, it should obviously be used. A clear distinction should be made between quiet lounging places and recreation and cafeteria areas.

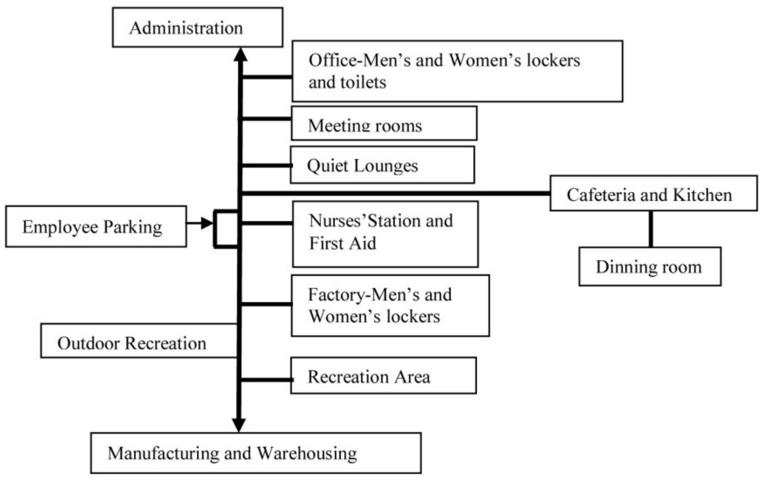


Figure 8: Employee Facilities Flow

They provide the rest room for the employee to rest comfortably. There is no first-aid room for employees and toilets are not clean and enough for all of the employees as shown in Figure 8 According to floor plan of the ZKG Garment Factory, there are sufficient facilities for the employee by giving dining room, and Rest room for necessary requirements.

4.5.1 Dining Room

Dining areas should be clean, protected from the weather, and have enough seating for all the workers who may be on break at any one time. Factory supports for Lunch, it is free for all employees from Myanmar rice cooking shop.

Use cleaning rags, not paper towels.

Use linen tablecloths and napkins in place of disposable ones.



Figure 9: Rest Room and Dining Room in ZKG Garment Factory

(Lunch not Free)

4.5.2 Toilets

Toilet facilities should be provided with running water, and stocked with toilet paper (where culturally appropriate) and anti-bacterial soap or instant hand sanitizer at all times. Factories should be equipped with enough toilet facilities to serve the worker population. For example, if a factory employs many more female workers than males, it should provide more female toilet facilities than male toilet facilities. The factory must provide toilets that are clean and in good working condition for workers' use.





Figure 10: Left and Right Toilets In ZKG Garment Factory

(Good Practice)

4.5.3 Drinking water

The factory must have plenty of safe drinking water; it must be available, at no cost, to all workers at all times. ZKG garment Factory supports 50 pcs (2kg) of Purify Drinking Water for all employees in daily.(Free Support: Good Practice, cost=50_300k=15000kyats in daily)



Figure 11: Drinking Water for Employee

(Good Practice)

4.5.4 Good Housekeeping

Good housekeeping practices are designed to maintain a neat, clean, and orderly factory. These are primarily measures to eliminate or reduce exposure of waste materials to precipitation runoff prior to disposal. These practices, when implemented on a routine basis during the course of work activities, minimize storm water contact with potentially polluting materials. Good housekeeping practices at the factory should include the following:

Regular sweeping of the potential contact zone areas (e.g., trash dumpsters, materials storage and handling areas, loading docks and outdoor processing areas) Regular removal of garbage, trash,

unusable equipment, and waste material from the factory grounds Storing materials away from direct traffic routes and in a manner that provides space for vehicles to maneuver Controlling material inventories to reduce quantities of materials stored and handled Routine inspection of potential contact zone areas for leaks or conditions that could lead to discharges of chemicals or fluids .Taking immediate action in the event a significant spill or release is detected, in accordance with established procedures Properly labeling material packages and containers to show the type and name of material or substance Staging, storing, or handling materials in areas that discharge to the wastewater treatment factory and not to the storm water drainage system Maintaining closed lids on dumpsters, other waste containers, and chemical storage containers, whenever practicable Maintaining dumpsters and other waste containers in good condition.





Figure 12: Storing Raw Materials and Waste Materials (Recycle)

4.5.5 Emergency Shut-Off Switch:

A master Emergency Shut-Off Switch is located in an accessible area within sight of all dispensers. This switch is labeled and is maintained in working condition at all times.

4.5.6 Fire Extinguishers:

Fire extinguishers with a minimum rating of 2-A:20-B:C are located in accessible areas no further than 23 meters (75 feet) from pumps and dispensers. All extinguishers have been serviced within the last 12 months (verifiable via service tag).
Factories should keep records of emergency evacuation drills. These records should include details about the drill (e.g., the time the last person exited the building, an accounting of all workers, any issues noticed during evacuation, plans to correct such issues). Records should also be kept on the maintenance and testing of emergency equipment (such as fire extinguishers, lighting, alarms, etc.).Factories should post “Danger,” “Warning,” and “No Smoking” signs where needed, and in a language that all workers understand.

4.5.7 Fire Safety

Water tank of 120,300 gallon capacity for prevention of fire hazard and protect from fire factory building is constructed using steel structure with RC concrete, water buckets , fire hooks , sand bags and fire extinguishers are kept ready for emergency. Fire extinguishers are hung on factory walls and also smoke detectors are fixed on the ceiling, fire harzard, Smoking in and around the factory is strictly prohibited in accordance with provisions of law and arrangements are in place also to prevent hazard of electrical fire.
Garment Factory includes in Factory Industrial F-1 Moderate- Hazard Group classified by fire service department.

Table 5: Existing General equipments for fire safety

Description	ZKG Garment Factory
Exit Discharge	All exit discharge at ground level directly into a safe exterior space
Exit Sign	All signage showing the emergency exit route can be visible.

Exit door opening	Always open
Water Tank for Fire	30000 gals ground tank x 1
Fire Extinguishers	30 (2Kg), 46 numbers large size
Fire wire	Old (should be change News)

Table 6: Existing Installation of Firefighting Equipments in Selected Garment Industries

Fire Safety	ZKG Garment Factory
Hose reel	No
Emergency generator	Yes
Emergency lighting	Yes , Total nos.
Exit signs	Yes
Firefighting & rescue stairways	No
Gas detection system	Yes
Underground static water storage tank	No
Terrace static water storage tank	Yes

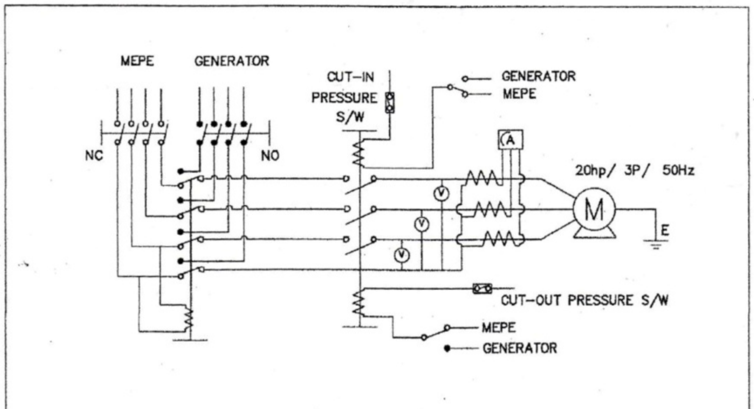
Table 5 shows the general requirements for garment industry and Table 6 shows the fire-fighting equipment which should be in industries. By having those, it will protect the industries from fire hazards.



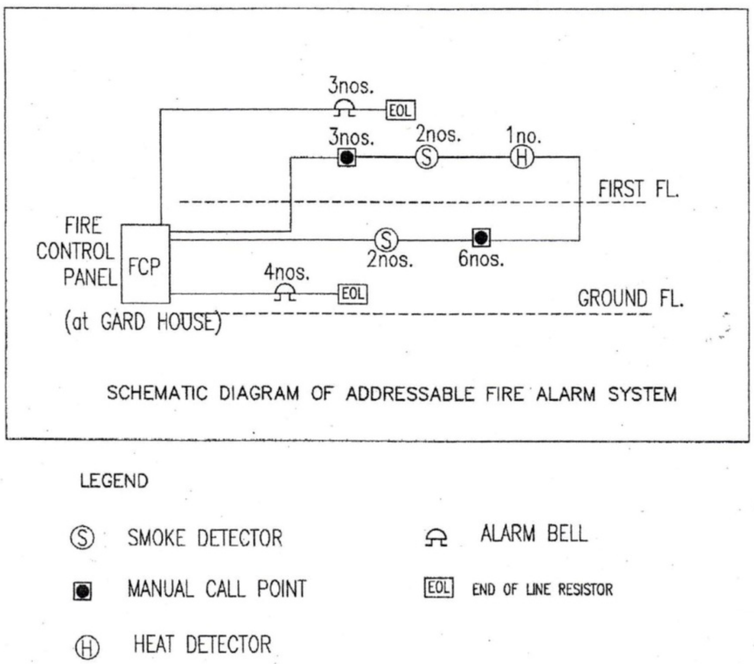


Small Fire extinguisher Alarm

Figure 13: Fire extinguishers, alarms



INCOMING MAIN SUPPLY CIRCUIT DIAGRAM FOR FIRE FIGHTING PUMP



SCHEMATIC DIAGRAM OF ADDRESSABLE FIRE ALARM SYSTEM

Figure 14: *Fire alarm System and Circuit Diagram*

4.5.8 Ferry Car

ZKG Garment Factory has been planned to arrange enough ferries for the employees so that the transportation is good without wasted time.

4.6 Exit

That portion of a means of egress system is separated from other interior spaces of a building or structure and opening protective as required to provide a protected path of egress travel between the exit access and the exit discharge .Exits include exterior exit doors at ground level, exit enclosures, exit passageways, exterior exit stairs, and exterior exit ramps exits.

Exit access is a means of egress system leads from any occupied portion of a building or structure to an exit.

Exit discharge is the portion of a means of egress system between the termination of an exit and a public way. There are at least 4 Exits in each main buildings at ZKG Garment Factory.

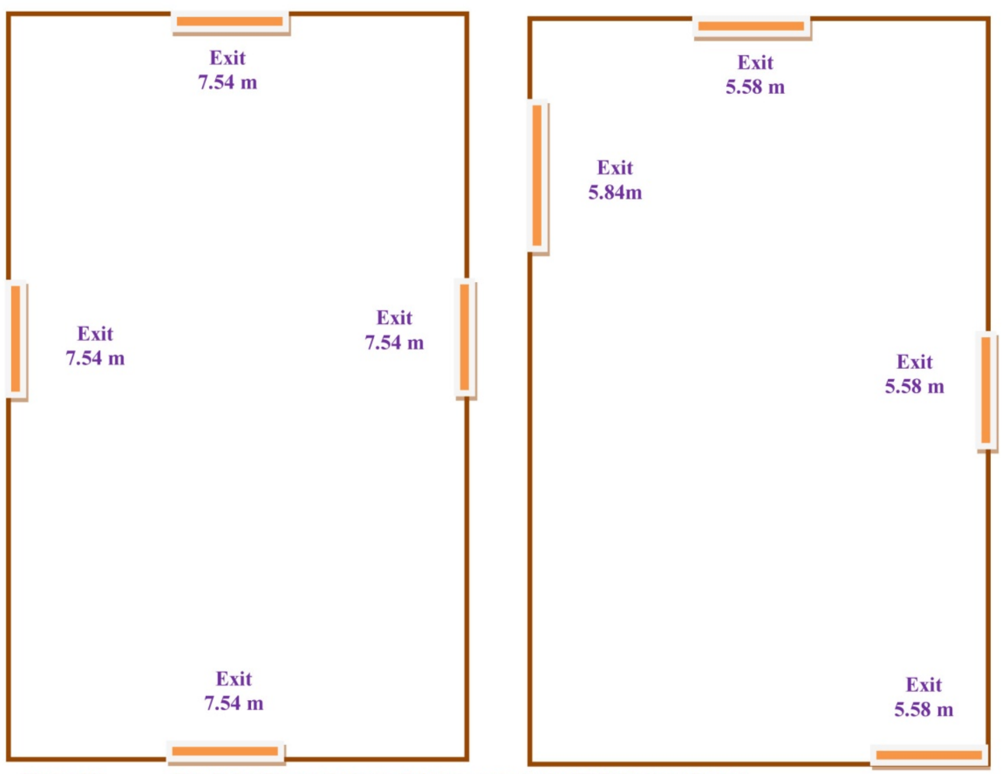


Figure 15: Fire Safety Plan and Always Exit ways open in the ZKG Garment Factory

4.6.1 Minimum Number of Exits

All rooms and spaces within each sections shall be provided with and have access to the minimum number of approved independent exits as required minimum number of approved independent exits as required by Table 7 based on the occupant working building .As there are seventeen exits and about 600 employees in the ZKG garment factory, These exits are enough to emergency case.

Table 7: Minimum Number of Exits for Occupant Loads.

Occupant working building	Minimum number of Exits
Building 1	4
Building 2	4
Building 3	4

There are a number of basic approaches to tackling heat hazards in garment factories. All involve reducing exposure by keeping heat away from workers through: engineering controls and changing work practices.

Engineering controls include:

1) The use of increased general ventilation throughout the factory by opening windows, by ensuring that air bricks, doors and so on are not blocked,

2) The use of "spot cooling" by the use of fans to reduce the temperature in certain sections of the factory. However, fans are often placed in the wrong position so that they compete with the general flow of air in the factory as a whole. They also spread dust around the factory,

3) The use of local exhaust ventilation systems in hot spots such as the ironing section to directly remove the heat as close to the source of the heat as possible and

4) The use of air conditioners/coolers

Changing work practices include:

1) Increasing the number and duration of rest periods,

2) Introducing job rotation so that workers are not always doing so-called "hot work",

3) Doing "hot work" in the coolest part of the day, and

4) Providing more workers to reduce the work load so that workers spend shorter times in hot environments

Whatever method is used to reduce workplace temperature, it is important that adequate supplies of drinks are made available to workers. These drinks could be cool, diluted fruit juices or lemon tea – water alone will lead to muscle cramps and so on.

4.7 Production space

The catwalk space can be seen to display their products and exhibition space in this industry. And detail of machinery lay out drawing are shown in Appendis
<u>Lobby and private cabins for the customer service</u>
It should be summarized by the followings:
The garment factory uses glass in façade of the building and front office which gives better lighting. Although many buildings are commonly seen in the garment factory, all of the zones .In the production floor of their industry, there is enough circulation space and employees can work comfortably according to their machine layout as shown in Figure 15





Figure 16: Proposed Production Space for Operational Departments

4.8 Ventilation

All habitable inner spaces shall be provided with natural ventilation, or mechanical ventilation

4.8.1 Ceiling ventilation

The space between the ceiling and the roof shall be provided with openings for ventilation which shall be protected from intrusion of birds, insects and other animals.

4.8.2 Natural ventilation

Natural ventilation of an occupied space shall be through windows, doors, louvers or other openings to the outdoors. The operating mechanism for such openings shall be provided with ready access so that the openings are readily controllable by the building occupants.



Figure 17: Ventilation and Workspace for all Departments

4.8.3 Ventilation area required

All habitable spaces which are meant for human occupation of more than 8 hours daily shall be provided with openings of minimum 10 per cent to the floor area for natural ventilation.
Exception: Exterior openings required for ventilation in stairwell, corridors, etc. shall be in accordance with fire safety requirements.

4.9 Lighting and Natural light

Every space intended for human occupancy shall be provided with natural light by means of exterior glazed openings or artificial light. Exterior glazed openings shall open directly onto a public way or onto a yard or court .The minimum net glazed area shall not be less than 10 per cent of the floor area of the room. Most garment factories have a combination of natural and artificial lighting. However, little attention appears to be paid on the nature of the work, it is as though all work in the factory requires the same degree of lighting. From the workers‟ perspective, poor lighting at work can lead to eye strain, fatigue, headaches, stress and accidents.
On the other hand, too much light can also cause health and safety problems such as headaches and stress. Both can lead to mistakes at work, poor quality and low productivity. Various studies suggest that good lighting at the workplace pays dividends in terms of improved productivity and a reduction in errors. Improvements in lighting do not necessarily mean that industry needs more lights and therefore use more electricity – it is often a case of making better use of existing lights; making sure that all lights are clean and in good condition; and that lights are positioned correctly for each task. It is also a case of making the best use of natural light.
There is also a need to make sure that all windows, skylights, are clean and in the best position to allow the maximum amount of natural light into the workplace. Garment industries can always

use appropriate shading methods for reducing the temperature and should not rely on the windows being dirty. Skylights and windows high up the factory walls let in much more light (and air) than low windows, which often get blocked with stock, raw materials and so on.
It is also essential that lights are positioned in the correct place so that workers do not have to adopt poor working postures to see the task in hand. It is also important to have adequate lighting near any potential hazards such as steps, ramps, etc. and outside the factory for security at night.

Lighting position and Electrical lay out drawings are shown in appendix.



Figure 18: Natural Light and Lighting Condition in ZKG Garment Factory

4.10 Zoning Classification

In garment industries, there can be classified as four main zones to run their functions. There are Administration zone for controlling their commercial facilities, Operation zone for their products, recreation zone for public facilities and others for M and E rooms, store rooms and so on.

1 Cutting 2 Store 3 Sewing 4 Office 6 Design room 7 Machine room 8 Spare Machine room	9 Utility room 10 Clinic 11 Chest Piece 12 Training Area 13 Dining 14 Ground Water Tank 15 Pump House 16 Over Head Water Tank	17 Main Gate, 18 Toilets 19 Air Compressor 20 Transformer 21 Diesel Tank 22 Generator House

Table 8: Functions and Facilities for Employees

Facilities	Clothing
Dining Hall	Yes, good ventilation and lighting
Canteen	No
First-aid	Yes, clean and healthy environment
Toilets	Yes, clean
Ferry	Yes
Lockers	No
Recreation	No

According to Table 8 , dining halls from ZKG garment good ventilation and lighting, and don't need protection from entering dust. There in no Canteens and cafeteria for employees. Because of high temperature, dust, inadequate lighting and ventilation, employees can suffer headache, fatigue and fever, so there should be first-aid room for health provision. Toilets can be seen for each section of industry and need to get good ventilation and lighting. Employees need library for their rest time because they want to relax their time by reading books.

4.11 Energy Efficiency in Garment Industry

Energy efficiency can be considered as the main energy saving opportunity for the manufacturing industry. The two factors should drive industry towards achieving it. The first is considering about natural ventilation for the garment industry and the second is natural lighting for very high temperature in garment industries. If energy constitutes a substantial input to industrial processes then this should be a straightforward incentive to improve energy efficiency.

High internal gains from artificial lighting and equipment produce an intolerably hot work environment, which exacerbates the already uncomfortable climate. Extensive usage of artificial lighting in sewing and steam irons in the ironing space is the major cause of high internal temperatures. Most of the garment industries are criticized for their overheated working conditions, causing a health hazard for the workers. The high density of people, equipment and artificial lighting are the reasons for high internal temperatures.

Table 9: Usage of Electricity Units in ZKG Garment Factor

Sr.	Location	Description	Electricity Units for Artificial Lighting
	Office and General	Air con	10 x 1.5 HP
	Sewing Line	Flurocent lamp	36 nos per line x 12 x 20 Amp
	Cutting Line	Flurocent lamp	2 x 2.5 HP
	Ironing Line	Flurocent lamp	2 x 0.75 HP
	Other necessary place	Flurocent lamp	652
	Pannel Board	Change over	1 x 62.5 KVA,1 x 300 KVA

Table 9 shows usage of electricity units in lighting of selected local garment industries, The cost for those units is 3 to 10 %of total expenditures of garment industries. Up to 3 to 10 %of total costs for electricity in industries shall reduce if natural lighting can be given sufficiently. According to their roof type, inclined lantern light can give as natural lighting. In this industry, employees cannot suffer from heat because of high ceiling. And they keep separate ironing room so that it can reduce employees' heating condition .

According to their roof type, ridge lights can enter as natural lighting. The ceiling can be seen for reducing heat but there is a little sky light for natural lighting. There are the roofs of corridor, therefore, there is enough natural lighting.



Figure 19: High Ceiling and Roof

4.12 Environmental Management Plan

Environmental Management Plan (EMP) has been proposed in the IEE report with issues, possible impacts, method of their mitigation measures, monitoring method and responsible implementing agencies. Different Monitoring Indicators on physical biological, socioeconomic and cultural environment have been developed.

4.13 Public consultation

Public consultation is an essential part of IEE process for the familiarization of local people or stakeholders as the proposed plan. Upon the initiation of the IEE study, major public consultation meetings were held previously to understand and identify the real issues of concerns of people/stakeholders related to the ZKG Garment Factory Project. The consultative meetings were organized with the representation from stakeholders, and local people within Zone of influence. In order to ensure the public involvement, the following procedures were followed during IEE report preparation. IEE team also carried out interaction with local communities and related stakeholders during field survey to collect the public concerns and suggestions. Moreover, focus group discussions (FGDs) were conducted to collect and solicit information regarding the bio-physical and socio-economic and cultural aspects of the proposed project. The focus group discussions were held at different settlements along the zone of influence of the road . The approved IEE report will be accessible to interested parties and general public through Garment factory compound.

Chapter 5 Description of the Environment

5.1 General Geology

Geologically Myanmar can be divided in to 4 units.

(a) Sino-Myamar Ranges/Shan Plates, age of rock are Mesozoic and Paleozoic rocks.

(b) Central Myanmar Tertiary Belt, Most of rocks are sedimentary rock and age of rock are Tertiary.

(c) Indo myanmar Ranges (Eastern Chin and Arkan Yoma Area). Most of rocks are flysch sediments and Melange group rocks, and age of rocks are Tertiary and Mesozoic rocks.

(d) Rakhine Costal Area.
Sedimentary rocks are formed in this area and age is Tertiary age.

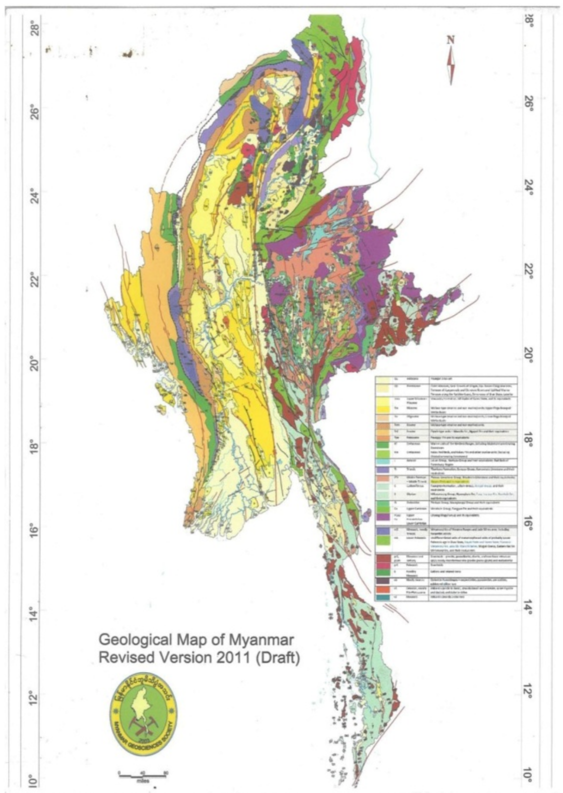


Figure 20: Geological Map of Myanmar Geology and Tectonic configuration

Major Tectonic Elements are following;

1. Western scarp Active subduction zone.
2. Kabaw right lateral Fault Zone.
3. Central Volcanic line.
4. Sagaing Right lateral strike slip fault zone.
5. Shan scarp fault.
6. Nan-Ting (Momeik and Shweli Right lateral Strike Slip fault zone)
7. Papun – Wang Chao left lateral strike slip fault zone.
8. There pagoda left lateral strike slip fauLt.

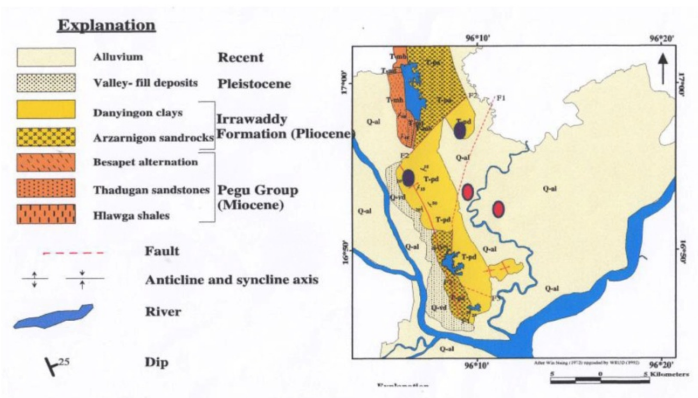
9. Ranong Right lateral strike slip fault.
10. Andaman Sea spreading centre. Rift segments and west right. Lateral strike slip fault zone.

All of above mentioned fault are active.

5.1.1 Regional Geology of Yangon

Greater Yangon, with is cosmopolitan population, lies in the Delta of the Irrawaddy on the banks of the Yangon river. The main city is situated between the Hlaing, or Yangon river on the west and the Pazundaung creek on the east at the southern extremity of a long narrow spur of the BagoYomas. This low ridge which runs almost due north and south attains a height of 155 feet at the triangulation station at the south-eastern corner of the Hlawgar lake but on the whole, it maintains a fairly constant height of 100 feet except where it is intersected by stream valleys

Figure 21: Geological map of Yangon Area



Geology of Yangon Area (Modified after Win Naing 1996)

In the neighborhood of Yangon the long spur of the Yomas is shown with a core of Pegu rocks stretching as far south as the Shwe Dagon Pagoda and flanked on either side by narrow hands of 'Lower Delta Alluvium' and surrounded by the vast area of 'Upper Delta Alluvium' of the delta

The core of the main Yangon ridge is composed of rocks strongly resembling those now designated Irrawaddian Series in the Pegu District and Upper Burma, and in the absence of paleontological evidence to the contrary their lithological resemblance and stratigraphic position between the Pegus and the Lower Delta Alluvium, should suffice to correlate them with the Irrawaddian Series.

To the north of Yangon should be obtainable from the Lower Alluvium on the west of the ridge as at Kamayut, Insein and Mingaladon. Moreover water is found as far north as Wanetchaung and still further north in the Hmawbi area. On the east of the ridge, however, the prospects are not so rosy. A small amount of water may be obtained from wells provide with suitable strainers sunk in the easterly dipping Irrawaddian sands to the east of the ridge, one might be lucky enough to strike one of the gravels in the Irrawaddian Series but the prospects of a large supply from this area are remote. A certain amount of water may be obtained from the sandy talus and superficial sands overlying the Irrawaddian rocks of the ridge.

Regional geological setting of Yangon and its surrounding region include ridges and deltaic low lands and also extensional rolling region of Bago Yoma anticlinoria. This area is located in N-S trending sedimentary basin containing a thick Tertiary and Quaternary deposits. Quaternary sediments of older and younger alluvium deposits are widely distributed throughout the Yangon area.

There are four main structures, Hlawga anticline, Yangon – Mingaladon anticline, Thingangyun – Thanlyin anticline and Twante anticline. Actually, Yangon area is complicated by numerous folding resulting in a characteristic – echelon loading system of rocks of Bagoyoma. These folded structure are cut by E-W ENE –WSW cross fault.

5.1.2 Soil

Alluvial soils (fluvic Gleysols) can be found in the flood plains. They have the texture of silty clay loam and they have the neutral soil reaction and are rich in available plant nutrients. Medadow gley soils (Gleysol) and Meadow swampy (Histic Gleysol) occur in the regions of lower depressions where the lands are inundated for more than 6 months in a year. The texture of this soil is clayey to clay and usually having very strong acid reaction and contain large amount of iron

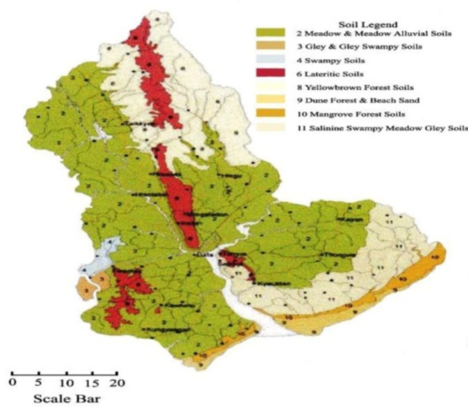
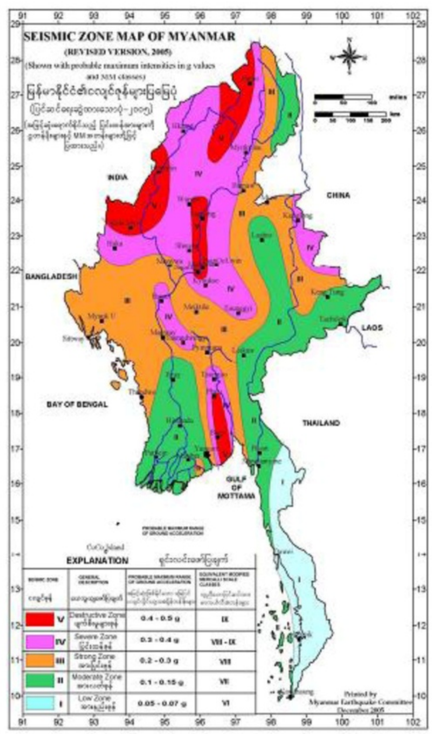


Figure 22: Soil map of Yangon Division

5.1.3 Geotechnical Hazard

Figure 23: Seismic Zone map of Myanmar



Generally, the lower Myanmar Region is mainly influenced by the southern segment of the Sagaing Fault: The segmentation is obvious alont it and this can be shown by the distribution pattern of earthquake occurrences (Maung Thein and Tint Lwin Swe, 2005). More to the point that ith subsidiaries of the Sagaing Fault in the south, they have a similar mode of faulting as the major one, the strike-slip on account of earthquake focal mechanism.

The northwest trending Thanlyin Fault at the southeast of Yangon May be the minor subsidiary of the Sagaing Fault. Some mediu to small magnitude shallow earthquakes seen associated to it and the continuity of earthquake occurrences extends toward the northwest, that is , along the Hlaing river. The size of the Thanlyin fault trace of is smaller than the sagaing. Therefore, an earthquake with magnitude more than 5 is very rare in the Yangon from the Thanlyin seismic source.

The Dadaye Fault (Tint Lwin Swe, 2004) on which the Dddaye Town situated is also a lare strike-slip one with linear trace on land about 80 km and it seems synthetic to the Sagaing Fault also in 1970, 1991 and 2004, the earthquakes with magnitude 5.7, 6.0 and 5.7 respectively were related to that one and mode of occurrence was strike-slip by definition of Harvard CMT solution.

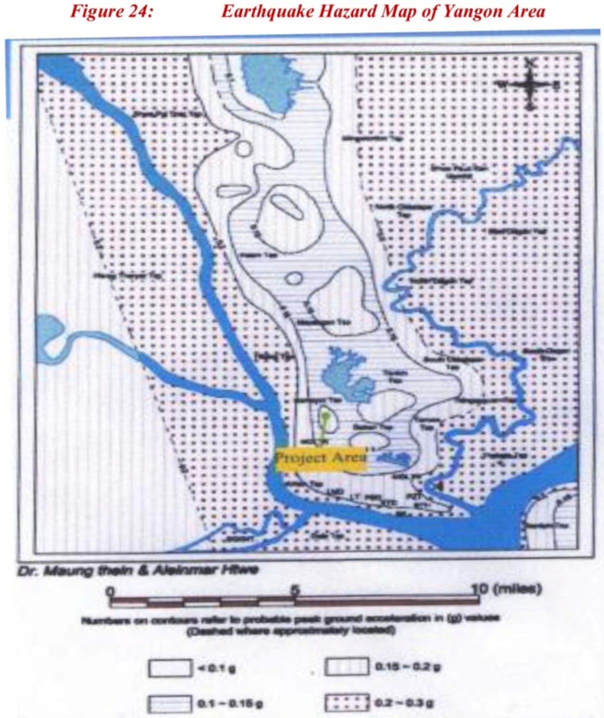
At the north of Yangon, the possible seismic source area is in the Thayarwady area although regional tectonic framework has not been well established. The probable mode of faulting is in the sense of faulting is in the sense of reverse owing to the fact that the mega-sausage structure and associated characteristics of progressive deforming pattern in the western part of the Bago anticlinorium’s.

To the south, the earthquakes frequently happen in the south of the Mottama Gulf and the Andaman sea where the extensional horsetail structure of the southern termination of the Sagaing Fault (Earn, 2003) is well dominated, It cannot be defines as a single seismic source, but the source area, likewise in the earthquakes is and thus, the whole area, in general, should be the seismic source areas.

The Bago earthquake in 5 May 1930 is associated with the right lateral strikeslip movement alont the west segment is long enough to generate large magnitude earthquakes in this region the location of this event was reported in NEIC Catalogue as 17 N and 96.5 E and the magnitude is 7.3. The records on damage and causality in this region such as Bago and Yangon suggested that the size of the earthquake was not less than 7.3 Richter Magnitude, Regarding ancient records of the Shwedagon Pagoda in Yangon and the Shwemawdaw Pagoda in Bago areas, there were at least (30) times since 197 BC (Win Swe, person, comm..). However in present study, the earthquake data are used from NEIC and other sources for the period from 1930 to 2004 with regardless of the large earthquakes on the historic record.

The highest intensity zone designated for Myanmar is the Destructive Zone (with porbable maximum range of ground acceleration 0.4 -0.5 g), which is equivalent to modified Mercalli (MM) class IX. There are four areas in that vulnerable zone; namely, Bago, Phyu, Mandalay-Sagaing-Tagaung,Putao Tanaing, and Kale Myo – Homalin areas. Although the latter two have major earthquake hazards, they may be less vulnerable as are major earthquake hazards, they may be less vulnerable as are sparsely populated,. Important cities and towns that lie in Zone IV (Severe Zone, with probable maximum range of t ground acceleration 0.3 – 0.4 g) are Taungoo, Taungwingyi, Bagan-Nyaung U, Kyaukse, Pyin Oo Lwin, Shwebo Wuntho, Hkamti, Haka, Myitkyina, Taunggyi and Kaunglone, Yangon straddles the boundary between Zone II and Zone III with the old and satellite towns in the eastern part in Zone III , and the original city in Zone II>

Figure 24: Earthquake Hazard Map of Yangon Area



5.2 Existing Physical Environmental Setting around the Proposed Project

5.2.1 Topography

According to topographic map of Yangon Region (Map Index -), this area is flat plain area and it is implemented by DEHSD for industrial Zone since 2000.



Figure 25: Map of Mingalardon Township and Industrial Zone

5.2.2 Soil

This area is valley filled deposit according regional geological map and subsurface lithology is clay, silty sand, fine grained sand, coursed sand foundation parameter is N ≈35, Density is dense, low land terrace, moderate stability and load carrying property of the foundation is enough.

5.2.3 Climate

Mean annual rainfall is 2909.3 mm, mean temperature is 27.05°C and mean annual evaporation is 347 mm. Climate is tropical with average minimum and maximum temperature. February to May is hottest time.

5.2.4 Ground water and Hydrogeology.

Hydrological characteristic of this area is based on underlying sediments and surrounding drainage system. Most of underlying sediments are alluvium units and Valley-fill deposit. Water bearing horizon is nearly 300 ft in Mingalar Don Zone and Yield is 3000 gph for 8 inches diameter tube well.

5.2.5 Drainage

Yangon City is generally bounded by Hlaing River in the west, Yangon River in the south and Bago river is in the east respectively. This area is quite close to Bar Lar river (Bar Lar Chaung)is flowing across 12 miles from north to south beyond this area.

5.2.6 Earthquake and seismicity

Due to structure geology of Yangon area and continuation of Sagaing fault (its located about 40 km east of the Shwedagon 47 uperv), It's a major seismic source in this region and some minor source are subsidiary of the sagaing fault. That's why seismic resistant factory building must be designed with 0.15 – 0.2 G value and standard building code.

Attached maps are references for existing environment in Yangon.

5.3 Ecological environment / reserved forest environment

There is no sensitive and none ecological and forest environment within 10 km radius of garment factory.

5.4 Socio-Cultural environment

Study area (Mingalardon Township) where Mingalardon Industry Zone ,situated at Yangon Division, Northern Yanagon District between 17°02'- 17° 04 in north latitude and 96°08' – 96°15' in east longitude and has total land area of 2830.77 Acre. Land borders of five townships of Hle Gu and North Okkalapa township in the east, Shwe Pyi Thar Township and Insein Townshop in the west ,Mayangone township in the south and Mawbi Township in the South. A location Map is shown in figure .

This is a place where the Ngwe Yar hill situates at the back and Lawkar lake is in the west where Shwe Pyi Thar Township is located. Bar Lar river is flowing across 12 miles from north to south and 7 miles from west to east inside this area.

There are about 2630 households in this group of quarters. The total population was 9567 with a male population of 4554 and female of 5013.

In the occupational structure, 201 peoples are government services, 477 are serviced personnels, 320 are business, 50 are Industrial workers and 311 are the people who take any job that comes by.

19 Schools of education of monastery,3 pre-primary level , 25 Primary level , 10 Middle level and 5 High Schools level are available in this township and group and college, university education is available at nearby Townships. Medical facilities are available in this area and some primary health centers also are available in this group of quarters which are Pale township hospital, 2 Regional Health care centers and 92 public clinic.

There are good approach roads in the form of Major District Roads and Main roads and ways passing through this study area. The study area is situated very close on the main road and having marketing facilities for their day to day requirements even major purchases.

Post and telecommunication facilities are quite available in most of the area. Most of all people in the study area have the basic medical facilities, transport, phone connection and market facilities.

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Geotechnical Laboratory ★ MRDRU, Electrum Services Co. Ltd ★ E ★ Letter No ..... Date ....

* *

Analytical Data for Water Sample

Laboratory : Electrum Geotechnical Laboratory , No. 43 Hninsimyaing Street,Rose Park 1,North Dagon Town Ship,Yangon Division

Location for : ZKG Hong Kong Garment Industries Co.,Ltd

Sample : Surface water -1

Date: 15.3.2014

Sr No.	Test Items	Symbol	Test Results				Limit of General Accept-ability	Guide Line and reference
			Units		Units			
1.	Calcium	Ca^{++}	0.72	me/l	14.43	mg/l	200 mg/l	WHO, 1963
2.	Magnesium	Mg^{++}	0.12	me/l	1.46	mg/l	150 mg/l	WHO, 1963
3.	Sodium	Na^{+}	0.47	me/l	10.70	mg/l	200 mg/l	WHO, 1963
4.	Potassium	K^{+}	0.09	me/l	3.70	mg/l	150 mg/l	WHO, 1963
5.	Carbonate	$CO_3^{=}$	N.D	me/l	N.D	mg/l		
6.	Bicarbonate	HCO_3^{-}	1.00	me/l	61.01	mg/l		
7.	Sulphate (SO_4)	$SO_4^{=}$	N.D	me/l	N.D	mg/l	200 mg/l	WHO, 1963
8.	Chloride (Cl)	Cl^{-}	0.35	me/l	12.55	mg/l	250 mg/l	WHO, 1963
9.	Iron(Fe)	Fe			N.D	mg/l	0.30 mg/l	WHO, 1963
10.	Total Dissolved Solids	TDS			68.48	mg/l	500 mg/l	WHO, 1963
11.	Dissolved Oxygen	DO			5.20	mg/l	5 mg /l	WHO, 1963
12.	Total Hardness	TH			42.00	mg/l	100 mg/l	WHO, 1963
13.	Colour		Absent					WHO, 1963
14.	Odour		Absent					WHO, 1963
15.	Taste		Absent					WHO, 1963
16.	pH	pH	7.20				7 - 8.5	WHO, 1963
17.	Electrical Conductivity	ECw	107.0	μmhos/cm				WHO, 1963
18.	Turbidity	Turb	22.0	NTU			5-25 NTU	WHO, 1963
19.	Salinity	Sal	0.00	%				
20.	Temperature	Temp	30.10	°C				WHO, 1963
21.	Classification	Class	C_2S_1					

Remarks

N.D = Non Detected

Commence

- Suitable for drinking water.

Lab Technician

Approved by

Thaung Aye Lwin
(Drilling Section Head)
Electrum Services Co., Ltd.

Electrum

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Analytical Data for Water Sample

Laboratory	:	Electrum Geotechnical Laboratory , No. 43 Hninsimyaing Street,Rose Park 1,North Dagon Town Ship,Yangon Division
Location for	:	ZKG Hong Kong Garment Industries Co.,Ltd
Sample	:	Surface water -2

Date: 15.3.2014

Sr No.	Test Items	Symbol	Test Results				Limit of General Accept-ability	Guide Line and reference
			Units		Units			
1.	Calcium	Ca^{++}	0.72	me/l	14.43	mg/l	200 mg/l	WHO, 1963
2.	Magnesium	Mg^{++}	0.12	me/l	1.46	mg/l	150 mg/l	WHO, 1963
3.	Sodium	Na^{+}	0.47	me/l	10.70	mg/l	200 mg/l	WHO, 1963
4.	Potassium	K^{+}	0.09	me/l	3.70	mg/l	150 mg/l	WHO, 1963
5.	Carbonate	$CO_3^{=}$	N.D	me/l	N.D	mg/l		
6.	Bicarbonate	HCO_3^{-}	1.00	me/l	61.01	mg/l		
7.	Sulphate (SO_4)	$SO_4^{=}$	N.D	me/l	N.D	mg/l	200 mg/l	WHO, 1963
8.	Chloride (Cl)	Cl^{-}	0.35	me/l	12.55	mg/l	250 mg/l	WHO, 1963
9.	Iron(Fe)	Fe			N.D	mg/l	0.30 mg/l	WHO, 1963
10.	Total Dissolved Solids	TDS			68.48	mg/l	500 mg/l	WHO, 1963
11.	Dissolved Oxygen	DO			5.20	mg/l	5 mg /l	WHO, 1963
12.	Total Hardness	TH			42.00	mg/l	100 mg/l	WHO, 1963
13.	Colour		Absent					WHO, 1963
14.	Odour		Absent					WHO, 1963
15.	Taste		Absent					WHO, 1963
16.	pH	pH	7.20				7 - 8.5	WHO, 1963
17.	Electrical Conductivity	ECw	107.0	μmhos/cm				WHO, 1963
18.	Turbidity	Turb	22.0	NTU			5-25 NTU	WHO, 1963
19.	Salinity	Sal	0.00	%				
20.	Temperature	Temp	30.10	°C				WHO, 1963
21.	Classification	Class	C_2S_1					

Remarks

ND = Non Detected

Commence

- Suitable for drinking water.

Lab Technician

Approved by

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(Drilling Section Head)
Electrum Services Co., Ltd.

Geotechnical Laboratory
E
Letter No ......
Date ....
MBDEL Electrum Services Co., Ltd.

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* *

Analytical Data for Soil Quality

Laboratory : Electrum Geotechnical Laboratory , No. 43 Hninsimyaing Street,Rose Park 1,North Dagon Town Ship,Yangon Division

Location : ZKG Hong Kong Garment Industries Co.,Ltd

Sample : Soil Sample

Date : 15.3.2014

Sr No.	Test Items	Unit	Results	High to excess range
1.	Cu	ppm	10.00	4300 mg/kg (or) ppm USEPA Standard
2.	Pb	ppm	250.00	420 mg/kg (or) ppm USEPA Standard
3.	Zn	ppm	22.00	7500 mg/kg (or) ppm USEPA Standard
4.	Fe	%	2.78	
5.	Cd	ppm	< 1.0	85 mg/kg (or) ppm USEPA Standard

ND Less than 1.0 ppm for CD

Lab Technician

Approved by
Thaung Aye Lwin
(Drilling Section Head)
Electrum Services Co., Ltd.

Chapter 6 Project Description

6.1 Projective Activity

Manufacturing of Jacket,Pant, outdoor Assessories of socks, sleeping bags, hats, head masks and gloves are under the category of readymade Garment industry. Readymade garment industry has occupied a unique place in the industrial scenario of our country by generating substantial export earnings and creating lot of employment. Its contribution to industrial production, employment and export earnings are very significant. This industry provides one of the basic necessities of life. The employment provided by it is a source of livelihood for millions of people. It also provides maximum employment with minimum capital investment. Since this industry is highly labor-intensive, it is ideally suited to Myanmar condition. This project report is prepared for the manufacture of gent's shirts, as they find wide acceptance in local and international markets. Any person having the knowledge of cutting and stitching operations can easily set up such establishments.

6.2 Project setting of the factory

Sr. No	Particular	Details
1	Location	No.(50)Shwe Myodaw Zaydi Lan, Yangon, Industry Zone(Mingalar don Garden Park) Mingalar Don Township, Yangon
2	Latitude Longitude	16 ° 51' 21.07" N 96° 03' 29.30" E
3	Elevation above mean sea level	300 ft
4	Climatic Condition	Tropical climate
5	Present land use at the proposed site	Approx 3 Acres
6	Nearest Highway road	Aung Mingalar High Way Buses Stations Yangon,
7	Nearest Railway station	Mingalar Don Station (on – going) (Yangon-Hinthada, Yangon-Pathein)
8	Nearest Village	
9	Nearest Township	Mingalar Don Township, North Okkalapa, Palae`
10	Ecological sensitive Areas	-
11	Reserved / Protection forest area	N/A
12	List of Industries	- Mingalar Don Industrial Zone ( )
13	Topography of the project site	Flat Plain
14	Nature of soil	Clay, Sandy Clay, Silty Clay
15	Accessibility	- Yangon Port (1 hr drive) - Yangon Airport (0.5 hr drive)
16	Electrical Power ability	✓ Government supply ✓ Own Generator
17	Water supply	- Own Tube well, - Ground water
18	Labor recruit	from surrounding area

6.3 Market potential

This industry is becoming very vibrant and lot of foreign investment pouring in this industry because of low risk and high earning nature of this industry. As these products are fashion oriented, well workmanship, lift of sanction and reliable Quota and order agreement, it is assumed that there will be no constraint in marketing of gent's shirt ready made garments.

Readymade garments are the choice of urban people. It is also gaining wider acceptance in semi-urban and rural areas. The huge charge made by tailors and delay in delivers has made people to switch over to readymade garments. In domestic market and export market, it has made spectacular progress in the last decade. This industry is becoming very vibrant and lot of foreign investment pouring in this industry because of low risk and high earning nature of this industry. As these products are fashion oriented, entrepreneurs should always keep in mind the changing fashion styles. Considering its advantageous position, it is assumed that there will be no constraint in marketing of gent's readymade garments.

Basis and Presumptions

1. This project is based on single shift basis and 300 working days in a year.
2. Since this industry is labour – intensive, the working efficiency is considered at 75%.
3. Cost of machinery and equipment/ raw material indicated refer to a particular make and approximately to these prevailing price at the time of preparation of this project.
4. Installation and electrification cost is taken @15% of cost of machinery.
5. Renovation of infrastructure cost is taken @20% of project cost.
6. Depreciation has been considered.
   a) On building @5% (New and Old)
   b) On plant and machinery @10%.
   c) On other fixed assets @15%.
   d) On office furniture and fixture @15%.
7. Interest on capital investment has been taken @15% per annum.

6.4 Project Layout

6.4.1 Function Area and Layout

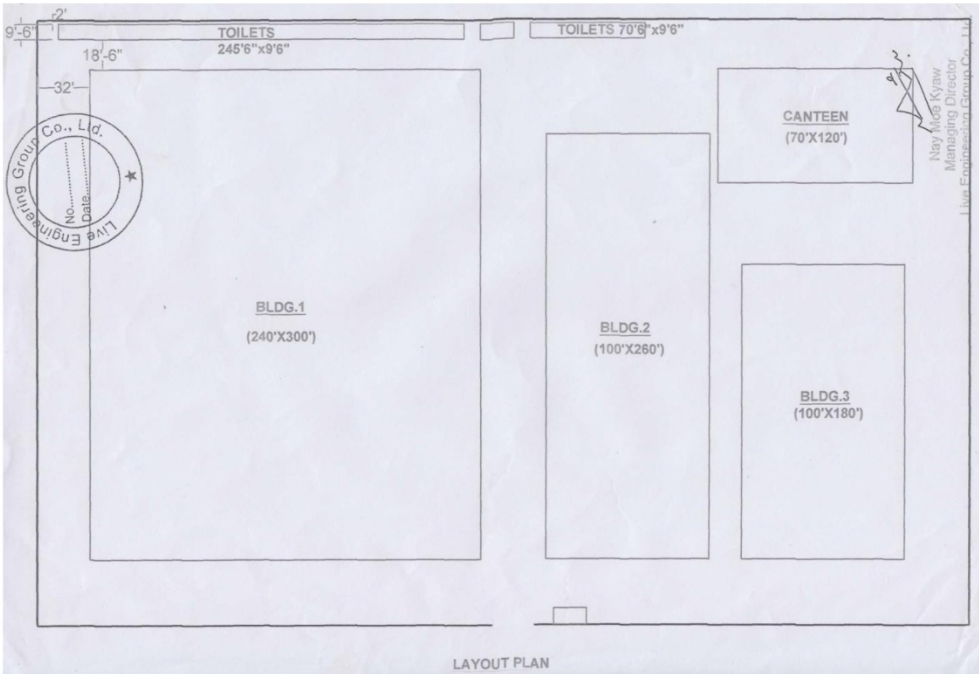


Figure 26: Existing building lay out

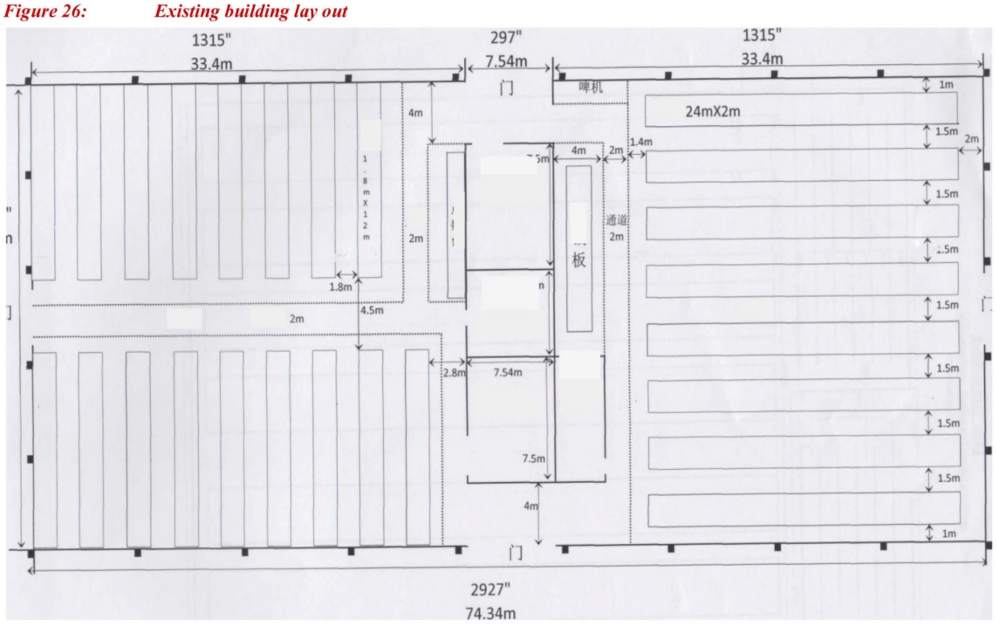


Figure 27: Lay out for Building 3

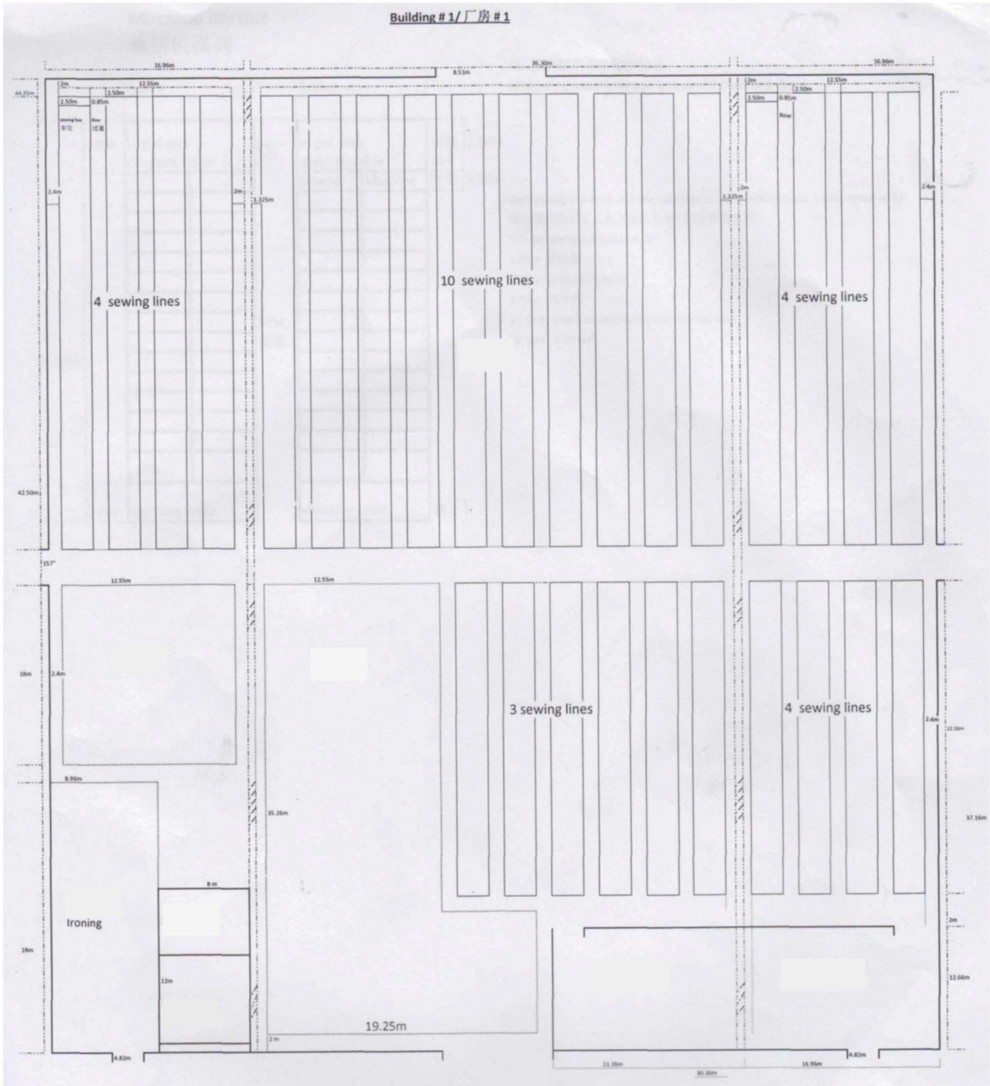


Figure 28: Lay out for Building 1

6.5 Project Construction Activity

a. Renovation of all building such as painting, part ion, safe electrical wiring and sanitary work, machine installation.

b. Design of Existing factory

Soil Test

- ✓ Architecture Drawing
- ✓ Civil work Detailed Drawing — Shown in Appendix
- ✓ Electrical Drawing
- \- Sanitary Drawing

c. Profile of factory

a. Factory building and other in fracture building are reinforced concrete and earth quake resistance structure according to earthquake and wind load – Building code.
b. Design life is more than 30 years.
c. Hygiene of working place, ventilation system, Building height, lighting system are acceptable condition for industrial standard and employee.
d. New building construction at future plan will comply with current rule and regulation of Building code, YCDC directives and MOCAF law.

6.6 Project Profile on Garment Products

Name of the product	:	Jacket,Pant, outdoor Assessories of socks, sleeping bags, hats, head masks and gloves
Product code	:	
Code of Supervise	:	
Quality & standard	:	The following standard may be referred.
	:	Garment Quality Guide – IS : 12675
		Readymade Garment : IS : 4039
		Packaging for Export.
		Garment Guide for – IS : 10194
		Positioning of Labels.
Month & Year of Preparation	:	
Implemented by	:	ZKG Textile Myanmar

6.7 Project Operation Principle

3 shift operation (1 shift /2015 – 2 shift / 2016 – 3 shift 2017

Working Hours : 8 hrs / shift

Table 10: Time Schedule for operation

Items	Time (Hr)	Remarks
Calander Period (A)	8,760	365 days x 24 Hours
Maintenance Time(B)	1,390	
Annual Repairs	240	2 times x 5 days x 24 hours
Regular Repairs (S/D)	160	10 times x 16 hours
Roll change repairs	990	3 hrs x 330 days
Line stop by plan (C)	1,104	
Operation time (D=A-B-C)	6,266	
Trouble Time (E)	400	6 %
Net operation (G=D-E)	5,866	
Working Ratio	93.6%	
Trouble Rate	6.0%	

Table 11: Equipment / Machinery

Sr.	Name	Unit	Qtty	Price(USD)	Amount (USD)
1	Cover Stitch Machine	Pcs	3	300	0.90
2	Cover Stitch Machine	Pcs	1	300	0.30
3	Zig Zag machine	Pcs	2	300	0.60
4	Cover Stitch Machine	Pcs	61	300	18.30
5	Multiple thread overlock sewing machine	Pcs	62	500	31.00
6	Multiple thread overlock sewing machine	Pcs	93	500	46.50
7	Multiple thread overlock sewing machine	Pcs	6	500	3.00
8	Software	Pcs	30	2,000	60.00
9	Heat cutter	Pcs	32	1,000	32.00
10	Bartacking machine	Pcs	42	400	16.80
11	Button hole sewing machine	Pcs	3	400	1.20
12	Button sewing Machine	Pcs	3	300	0.90
13	Snapping machine	Pcs	35	300	10.50
14	Digitizer	Pcs	2	600	1.20
15	Light box	Pcs	1	100	0.10
16	Circuit panel	Pcs	2	500	1.00
17	Down fillling machine(small)	Pcs	28	600	16.80
18	Zig Zag machine	Pcs	3	400	1.20
19	Electric lockstitch sewing machine	Pcs	376	500	188.00
20	Computer equipment	Pcs	1	2,000	2.00
21	Electric pattern sewing machine	Pcs	2	300	0.60
22	Embriodery machine	Pcs	3	300	0.90
23	Heat seal presses	Pcs	26	300	7.80
24	Cutter	Pcs	12	300	3.60
25	Cutting knife grinder	Pcs	1	300	0.30
26	Basic cutting machine	Pcs	15	300	4.50
27	End cutter	Pcs	14	300	4.20
28	Basic Software	Pcs	1	300	0.30
29	Cutting bed	Pcs	12	300	3.60
30	Cloth cutter	Pcs	1	300	0.30
31	Dryer	Pcs	10	300	3.00
32	Vacuum table	Pcs	2	300	0.60
33	Incubator	Pcs	1	300	0.30
34	Double needle sewing machine	Pcs	17	300	5.10
35	Double needle sewing machine	Pcs	1	500	0.50
36	Double needle sewing machine	Pcs	180	400	72.00
37	Down fillling machine(Large)	Pcs	3	1,200	3.60
38	Drying machine	Pcs	2	250	0.50
39	Electric pallet trolley	Pcs	1	1,500	1.50
40	ElectricScissors	Pcs	32	350	11.20
41	Hanger system	Pcs	1	10,000	10.00
42	Electric tricyle	Pcs	1	350	0.35
43	Electronic button sewing machine	Pcs	5	600	3.00
44	Electric elevator/ lift	Pcs	1	2,000	2.00
45	End cutter	Pcs	6	500	3.00

46	Fabric inspection machine	Pcs	5	1,600	8.00
47	Flat seam machine	Pcs	7	500	3.50
48	Lockstitch sewing machine	Pcs	2	450	0.90
49	Overlock sewing machine	Pcs	118	400	47.20
50	Multineedles stitch machine	Pcs	2	400	0.80
51	Heat presses	Pcs	7	500	3.50
52	Multiple thread overlock sewing machine	Pcs	76	500	38.00
53	Automatic cutting machine	Pcs	8	450	3.60
54	Air receiver tank	Pcs	3	200	0.60
55	Heat press machine	Pcs	168	500	84.00
56	Zig Zag machine	Pcs	6	400	2.40
57	Heat presser sealing	Pcs	7	500	3.50
58	Cutting machine	Pcs	10	500	5.00
59	Hot elastic roller	Pcs	2	350	0.70
60	Hydraulic cutting machine	Pcs	3	400	1.20
61	Hydraulic cutting machine		5	500	2.50
62	Interlock cover stitch machine	Pcs	4	400	1.60
63	Iron	Pcs	30	100	3.00
64	LAN switch machine	Pcs	5	1,500	7.50
65	Laser cutting machine	Pcs	1	4,000	4.00
66	Laser cutting machine	Pcs	5	10,000	50.00
67	Lifting platform	Pcs	1	800	0.80
68	Lockstitch sewing machine	Pcs	319	400	127.60
69	Pallet trolley	Pcs	7	600	4.20
70	Pallet trolley	Pcs	2	450	0.90
71	Mechanicalntester	Pcs	1	300	0.30
72	CCTV	Pcs	2	350	0.70
73	Needle detector	Pcs	10	1,300	13.00
74	Overlock sewing machine	Pcs	6	450	2.70
75	Air compressor	Pcs	7	500	3.50
76	Plotter	Pcs	6	450	2.70
77	Rolling machine(Large)	Pcs	1	700	0.70
78	Purifier	Pcs	2	250	0.50
79	Ironing table	Pcs	110	150	16.50
80	Air dryer	Pcs	5	200	1.00
81	Rolling machine (small)	Pcs	2	350	0.70
82	Taping sewing machine	Pcs	7	400	2.80
83	Air compressor	Pcs	5	500	2.50
84	Pallet trolley	Pcs	1	500	0.50
85	Strapping machine	Pcs	7	450	3.15
86	Server	Pcs	3	1,200	3.60
87	Hot vacuum table	Pcs	3	300	0.90
88	Skiving machine	Pcs	5	300	1.50
89	Cover stitch machine (Small cylinder)	Pcs	3	700	2.10
90	Boiler	Pcs	14	250	3.50
91	Swing needle sewing machine	Pcs	8	450	3.60
92	Switching box	Pcs	1	100	0.10

93	Tape punch	Pcs	1	150	0.15
94	Pattern cutting machine	Pcs	3	1,500	4.50
95	Hydrostatic tester	Pcs	9	350	3.15
96	Theread sucking machine	Pcs	3	250	0.75
97	Cover stitch machine	Pcs	41	500	20.50
98	Ultrasound cutter	Pcs	10	300	3.00
99	UPS	Pcs	1	100	0.10
100	Ultrasound sewing machine	Pcs	1	500	0.50
101	Round cutter	Pcs	2	450	0.90
102	Water softener	Pcs	5	200	1.00
103	Webbing cutter	Pcs	2	400	0.80
104	Lock stitch sewing machine	Pcs	1426	300	427.80
105	Lockstitch sewing machine	Pcs	15	400	6.00
106	Generator	Pcs	2	8,000	16.00
107	Single needle spreader	Pcs	3	500	1.50
108	Twin Needle spreader	Pcs	3	500	1.50
109	Snap button machine	Pcs	31	550	17.05
110	Button hole machine	Pcs	1	450	0.45
111	Ironing machine	Pcs	2	400	0.80
112	Ironing boiler	Pcs	1	250	0.25
113	Portable needle dector	Pcs	2	1,250	2.50
114	Compressing machine	Pcs	1	500	0.50
115	Tread dividing machine	Pcs	3	250	0.75
116	Computer controlled cycle machine	Pcs	10	500	5.00
117	Plastic board cutting machine	Pcs	2	400	0.80
118	Lockstitch straight trimming machine	Pcs	2	400	0.80
119	Marker machine	Pcs	1	1,600	1.60
120	Rim cutting machine	Pcs	1	1,800	1.80
121	Ticket printing machine	Pcs	2	300	0.60
					1599.15 US$`000

Table 12: Vehicle list

No.	Equipment / machinery	Unit	Quantity	Specification	Capacity	US $'000
1.	Truck 1.5 tons	set	3	2010 model & up	1.5 ton	60.00

Table 13: Projected water consumption

Uses	Location	Total Staff	Consumption per day		Toilet	Source
General Uses	Building 1		800	gals	10 Rooms	Groundwater
General Uses	Building 2		800	gals	10 Rooms	Groundwater
General Uses	Building 3		30	gals	2 Rooms	Groundwater
Steam/Ironing	Boiler		11	gals		Groundwater

6.8 Project Control & standard

6.8.1 Quantity control & standard:

The quantity of garments mainly depends on quality of fabric used. Therefore, care must be taken while purchasing fabrics to ensure good colourfastness properties, uniformity in shade etc. Generally garments are made as per customer's specification in respect of size, design and fashion.

Sr.No	SHE Policy	Title
1.	IS:12675	Garment Quality Guide
2.	IS:4039	Readymade Garment Packaging of Export
3.	IS:10194	Garment Guide for Positioning of Labels

6.8.2 SHE Policy

ISO 9000	:	Quality Control of Service for Product
ISO 9001	:	Design
ISO 9002	:	Production
ISO 9003	:	Audit
ISO 14001(Registered)	:	Own Policy of EMP (PDCA – Plan , Do, Check, Act)
OHSAS 18001	:	Safety and Environment

6.9 The textile manufacturing process

The production of a textile starts either from natural fibres (for example wool and cotton) or from the production of man-made fibres (for example polyester and viscose). Mixed materials are also common. The next step is the production of yarns from the natural or synthetic fibres. Fabrics are produced of the yarns/ fibres by different technologies (weaving, knitting, nonwoven technologies, braiding, tufting. The finishing processes, which includes several steps (pretreatment, dyeing, printing, and finishing) then follows. Some textiles are coated or laminated. These process steps are not always in the same order. Dyeing, for example can be carried out on loose fibres, on yarns, on fabrics, and on readymade textiles. The make-up (cutting, sewing and assembling) is the last step before selling in retail trade or whole trade and consumer use. Figure 29 describes a generalized picture of the textile process. Since most chemicals are used in the finishing step, focus is on this part of the process.

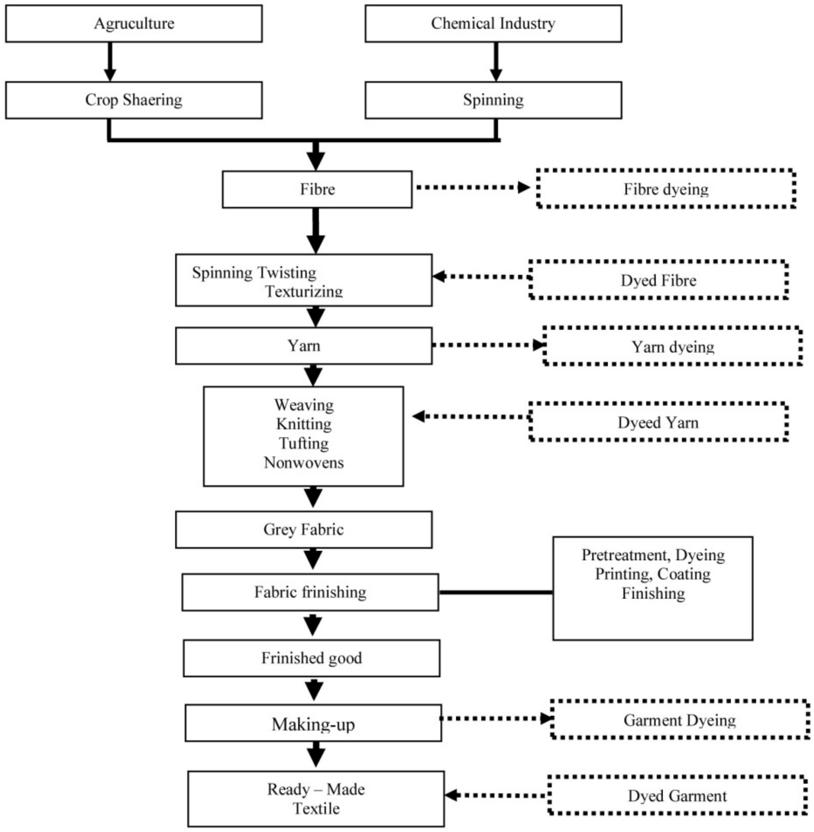


Figure 29: A simplified schematic picture of the textile manufacturing process

6.10 Nature and Process of Garment Industries

The following processes are generally seen in garment industries. These processes may be increased depending on the type of products, more detail facts and number of employees.

6.10.1 Design or Sketch

In the garment manufacturing, the first step is designing the sketch for the dresses that have to be prepared. For this purpose, the designer first draw several rough sketches in the sketch book .

6.10.2 Pattern Design

The pattern maker now develops the first pattern for the designs in any one standard size. This is made by pattern drafting method and the purpose of making this pattern is to create the sample garment for test fit.

6.10.3 Sample Making

The first patterns are sent to the sewing unit for assembling them into garment. This is usually stitched on calico or muslin which is an inferior quality of fabric and it reduces cost. This sample is constructed to analyze the pattern fit and design too. After the sample garment is stitched, it is reviewed by a panel of designers, pattern makers and sewing specialists. If any changes have to be made, they are made at this time.

6.10.4 Production Pattern

The pattern design is now taken for creating the production patterns. The production pattern is one which will be used for huge production of garments. The pattern maker makes the patterns on standard pattern making paper. These reports are made-up of various grades.

6.10.5 Grading

The purpose of grading is to create patterns in different standard sizes. Grading a pattern is really scaling a pattern up or down in order to adjust it for multiple sizes. Pattern sizes can be large, medium and small or else. There are standard patterns of size 10, 12, 14, 16 and so on for different figure and statures sizes. This is generally how we get small, medium, large, extra-large and extra extra-large sizing. Pattern grading by manual method is a cumbersome task because the grader has to alter the pattern on each and every point from armhole, to neckline, sleeve cap and wrist etc. by using CAD it is much easier and faster.

6.10.6 Spreading

With the help of spreading machines, fabric is stacked on one another in reaches or lays that may go over 100 ft (30.5 m) long and hundreds of plies (fabric pieces) thick.

6.10.7 Cutting

The fabric is then cut with the help of cloth cutting machines suitable for the type of the cloth. These can be band cutters having similar work method like that of band saws; cutters having rotary blades; machines having reciprocal blades which saw up and down; die clickers similar to die or punch press; or computerized machines that use either blades or laser beams to cut the fabric in desired shapes .

6.10.8 Sorting or Bundling

The sorter sorts the patterns according to size and design and makes bundles of them. This step requires much precision because making bundles of mismatched patterns can create severe problems. On each bundle there are specifications of the style size and the marker too is attached with it .

6.10.9 Sewing or Assembling

The sorted bundles of fabrics are now ready to be stitched. Large garment manufacturers have their own sewing units and others used to give the fabrics on contract to other contractors. Stitching in-house is preferable because one can maintain quality control during the processing. On the other hand, if contractors are hired, keeping eye on quality is difficult unless the contactor is one who precisely controls the process.

6.10.10 Washing

Washing is an essential work to remove dirt, spots, oil stains that accumulate to garment at the garment manufacturing processes and chemicals used during printing process and embroidery process and to soften the garment hands feel and improve bulkiness. The types of washes are heavy enzyme or vintage wash, cloud wash, stone wash, acid wash and so on.

6.10.11 Inspection

Open seams, wrong stitching techniques, non- matching threads, and missing stitches, improper creasing of the garment, erroneous thread tension and raw edges are some of the sewing defects which can affect the garment quality adversely. During processing, the quality control section needs to check each prepared article against these defects.

6.10.12 Pressing or Finishing

The next operations are those of finishing and/or decorating. Molding may be done to change the finished surface of the garment by applying pressure, heat, moisture, or certain other combination. Pressing, pleating and creasing are the basic molding processes. Creasing is mostly

done before other finishing processes like that of stitching a cuff. Creasing is also done before decorating the garment with something like a pocket, appliqués, embroidered emblems etc.
The function of vertical and form presses is made by automated machines. Perform simple pressing operations, such as touching up wrinkles in knit shirts, around embroidery and snaps, and at difficult-to-reach places on garments.

6.10.13 Final Inspection

For the textile and apparel industry, product quality is calculated in terms of quality and standard of fibers, yarns, fabric construction, colour fastness, designs and the final finished garments. Quality control in terms of garment manufacturing, pre-sales and posts sales service, delivery, pricing, and so on are essential for any garment manufacturer, trader or exporter. Certain quality related problems, often seen in garment manufacturing like sewing, color, sizing, or garment defects should never be over looked .

6.10.14 Packing

The finished garments are finally sorted on the basis of design and size and packed to send for distribution to the retail outlets.

6.11 Production Capacity (Per year):

Table 14: Approximated Production Capacity per year

Sr.	Products	MinimumQty (Doz.)	Value (USD '000)
1.	Jackets	55,000	715
2.	Pants	55,000	632.5
	Outside Accessories		
3.	Socks	7,000	15.75
4.	Sleeping Bed	7,000	15.75
5.	Hat	7,000	15.75
6.	Head Masks	7,000	15.75
7.	Gloves	14,000	31.50

6.12 Produced waste from Operation per year

Table 15: Solid waste Capacity per year

Sr.	Produce	Quantity(kg/ year)	Remarks
1.	Paper	300	Reuse , recycle or sell to contractor
2.	Plastic	500	Reuse , recycle or sell to contractor
3.	Scrap	13,080	Reuse , recycle or sell to contractor

6.13 Motive Power Required:

Total (52,000) kwh / month / or machine is required to run this unit at installed capacity.

6.14 Pollution Control:

The process of manufacture does not generate pollution. However, entrepreneurs are to contact pollution control board or factory inspection department for necessary guidance.

6.15 Energy Conservation:

Maximum care should be taken while selecting the machinery and other electrical equipments so as to ensure minimum power consumption.

6.16 Operational Resources

6.16.1 Land & Building : Existing building in the proposed project

	Building	Area(m^2)	Total Staff		Remarks
1.	Building 1	240' x 300'		persons	
2.	Building 2	100' x 260'		persons	2 storey
3.	Building 3	100' x 180'		persons	
4.	Canteen	70' x 120'		persons	

6.16.2 Fix Access and Furniture

Table 16 Fix Access and Furniture

Sr	Name	Qtty	BIT	Price(USD)	Amount (USD)
1	File server	1	81600	2.72	2.72
2	Web server	1	61200	2.04	2.04
3	Data base server	1	61200	2.04	2.04
4	Mail server	1	61200	2.04	2.04
5	Antivirus server	1	61200	2.04	2.04
6	UPS 2000 VA	6	2652	0.09	0.54
7	Computer PC	50	27030	0.9	45
8	Laser printer	6	29070	0.97	5.82
9	Barcode printer	2	35700	1.19	2.38
10	UPS 800 VA	50	1836	0.06	3
11	Scaner Barcode	10	15300	0.51	5.1
12	Router	2	12240	0.41	0.82
13	Wireless management	2	9470	1.65	3.3
14	Firewall	2	56100	1.87	3.74
15	VOIP gateway	1	40290	1.34	1.34
16	Rack 19" rack 42 U (60 x 100 cm)	2	30600	1.02	2.04
17	Switch core / L324 port 100 / 1000	1	49470	1.65	1.65
18	Switch 24 port 10/ 1000	6	34170	1.14	6.84
19	UTP CAT 5E (LAN)	4000	41	0.00136	5.44
20	VDO conference	1	714000	23.8	23.8
21	Projector	4	66300	2.21	8.84
22	Internet leased line	1	81600	2.72	2.72
23	Backup ADSL internet line	1	81600	2.72	2.72
24	PABX	1	265200	8.84	8.84
25	Telephone	50	1275	0.04	2
26	Speaker amplifier	1	15300	0.51	0.51
27	Amplifier	40	850	0.03	1.2
28	Antena	1	12750	0.43	0.43
29	Television	4	20298	0.68	2.72
30	Wire	20000	60	0.001984	39.68
31	Tubing	10000	46	0.00153	15.3
32	Fitting and accessories	3000	66	0.00221	6.63
33	Working table	50	4080	0.14	7
34	Copy machine + Fax	3	20400	0.68	2.04
35	Chair	100	2040	0.07	7
36	Cabinet	5	1530	0.05	0.25
37	Locker	20	25500	0.85	17
38	Shelf	30	51000	0.17	5.1
39	Staff dining table + chair	30	6800	0.23	6.9
40	Bed	5	5100	0.17	0.85
41	Closet	5	5100	0.17	0.85
42	Mosquito wire screen	40	1530	0.05	2
43	Sofa	4	2040	0.07	0.28
44	Dining table	2	3060	0.1	0.2
45	Chair	16	1020	0.03	0.48
46	Microwave	1	12240	0.41	0.41
47	Water Cooler	20	30600	1.02	20.4
48	Regrigerator	2	30600	1.02	2.04

49	Washing machine	1	51000	1.7	1.7
50	Dryer machine	1	51000	1.7	1.7
51	Lab instrument	50	2040	0.07	3.5
52	Weighing scale	2	3060	0.1	0.2
53	White board	20	1224	0.04	0.8
54	Bicycle	10	2040	0.07	0.7
55	Pick up	2	794286	26.48	52.96
56	Van	1	1500000	50	50
					397.64

Purchased Factory Equipments

Description	Usage	Quatity	Unit	Unit/Price	Amount	Remark
A B C Dry Chemical 5 Kg.	Production	5		29,500.00	737,500.00	
A B C Dry Chemical 5 Kg.	Office	2		29,500.00	59,000.00	
A B C Dry Chemical 5 Kg.	Generator	2		29,500.00	59,000.00	
A B C Dry Chemical 5 Kg.		2		29,500.00	59,000.00	
A B C Dry Chemical 5 Kg.		1		29,500.00	29,500.00	
A B C Dry Chemical 5 Kg.		1		29,500.00	29,500.00	
A B C Dry Chemical 5 Kg.	ACC. Store	1		29,500.00	29,500.00	
A B C Dry Chemical 5 Kg.		1		29,500.00	29,500.00	
A B C Dry Chemical 25 kg.		2		195,000.00	390,000.00	
(Alarm Bell)	Production	6		18,000.00	, 108,000.00	
(Alarm Bell)	Office	1		18,000.00	18,000.00	
Emergency Light	Production	13		25,000.00	325,000.00	
Emergency Light	Office	5		25,000.00	125,000.00	
Break Glass	Production	6		25,000.00	150,000.00	
Break Glass	Office	1		25,000.00	25,000.00	
Emergency Exit)	Production	5		32,000.00	160,000.00	
(Emergency Exit)	Office	1		32,000.00	32,000.00	
(Fire Exit)	Production	4		32,000.00	128,000.00	
(Fire Exit)	Office	1		32,000.00	32,000.00	
(Siren Fire)	Production			11,000.00	55,000.00	
(Siren Fire)	Office			11,000.00	11,000.00	
Smoke Alarm	Production	4		16,000.00	64,000.00	
Smoke Alarm	Office	1		16,000.00	16,000.00	
					2,671,500.00	
					107,500.00	

6.16.3 Working Capital (per month)

Table 17 Proposed Staff & Labour (Per Month) (in thousand)

ZKG ASIA Limited
Schedule Annexed to Proposal under Foreign Investment Law
List of Staffs Required

(In Thousand Schedule - 9 -'000)

Sr.	Description	Yr 1-2 No.	Yr 1-2 Rate per month US$	Yr 1-2 Yearly Amount US$'000	Yr 3-10 No.	Yr 3-10 Rate per month US$	Yr 3-10 Yearly Amount US$'000
	Local Staff						
	Finance Manager	1	500	6.00	1	500	6.00
	Admin Manager	1	300	3.60	1	300	3.60
	Supervisor	5	150	9.00	5	150	9.00
	Assistant Supervisor	2	100	2.40	2	100	2.40
	Account Staff	3	100	3.60	3	100	3.60
	Admin Staff	3	100	3.60	3	100	3.60
	Marketing Staff	3	100	3.60	3	100	3.60
	Security	10	80	9.60	10	80	9 60
	Driver	2	90	2.16	2	90	2.16
	Cleaner	4	60	2.88	4	60	2.88
	Skill Worker	600	65	468.00	630	65	491.40
	UnskilUnskilledr	50	50	30.00	70	50	42.00
	Total	684		544.44	734		579.84
2	**Foreign Experts and Technicians re**						
	Factory Staffs						
	General Manager		1000	12.00		1000	12.00
	Factory Manager		800	9.60		800	9.60
	Engineer/Machanic		800	9.60		800	9.60
	Techanician		800	48.00		800	48.00
	Marketing Manager		700	8.40		700	8.40
				87.60			87.60
	Total	693		632.04	743		667.44

Remark: (1) For the purpose of smooth operation, expatriates (quality Controllers) will be appointed and their salaries will be provided by foreign buyer company

6.16.4 Raw Material

Table 18 Raw Material (Per year to be imported):CMP System

ZKG ASIA Limited
Schedule Annexed to Proposal under Foreign Investment Law

Schedule - 5

Raw-materials Requirement

(In Thousand - '000)

	Description	A/U	Y+1	Y+2	Y+3	Y+4	Y+5	Y+6	Y+7	Y+8	Y+9	Y+10
Raw Materials												
1	Fabric	yd(000)	2,938	3,168	3,629	3,629	3,629	3,629	3,629	3,629	3,629	3,629
2	Button	pcs(000)	5,952	6,432	7,356	7,356	7,356	7,356	7,356	7,356	7,356	7,356
3	Zippers	pcs(000)	2,724	2,928	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360
4	Thread	yd(000)	133,365	143,148	163,995	163,995	163,995	163,995	163,3	163,995	163,995	163,995
5	Labels	Nos(000)	4,464	4,812	5,508	5,508	5,508	5,508	5,508	5,508	5,508	5,508
6	Inter lining	yd(000)	1,341	1,440	1,659	1,659	1,659	1,659	1,659	1,659	1,659	1,659

6.16.5 Utilities : (Per Month)

No.	Item	Unit	Quantity
1.	Electricity	kwh / year	4,090,025
2.	Water	m^3 / year	46,068
3.	Steam	ton / year	11,732
4.	Fuel (Diesel oil)	tons /year	2,568

6.16.6 TOTAL CAPITAL INVESTMENT:

Capacity utilization of plant and machinery is considered as 75% of installed capacity. However, this can be improved to 80% during 3rd year of production.

ZKG ASIA Limited Schedule Annexed to Proposal under Foreign Investment Law Yearly Investments In Thousand. '000)	
Description	Amount
	US$'000
Capital Contribution Machinery, Equipment and tools Furniture & Fixture Vehicles Cash	1,599.15 17.20 60.00 150.00
Total	1,826 35

Chapter 7 Garment Manufacturing Process Flow Chart

Garment manufacturing includes number of processes from order receiving to dispatching shipment of the finished garments. A process flow chart helps to understand how raw materials are moved from one process to another process until raw materials are transformed into the desired product (garments).

To be noted that a process flow chart made for the garment manufacturing processes will vary based on manufacturing facility and product types. As some companies do whole process in single plant when others do production jobs and other auxiliary processes are outsourced.

Based on present apparel industry, garment manufacturing processes are categorized as

- Preproduction processes pre-production process includes sampling, sourcing raw materials. Approvals, meeting etc. Read this for further reading on pre-production processes.
- Production processes – Production processes are cutting, sewing etc.
- Post production processes – thread trimming, pressing, checking, folding and packing, shipment inspection etc.

Instead of making a single process flow chart, I have made one chart for major processes and two separate charts for cutting room processes and finishing processes for detailed process chart.

7.1 Garment manufacturing process flow chart (major processes)

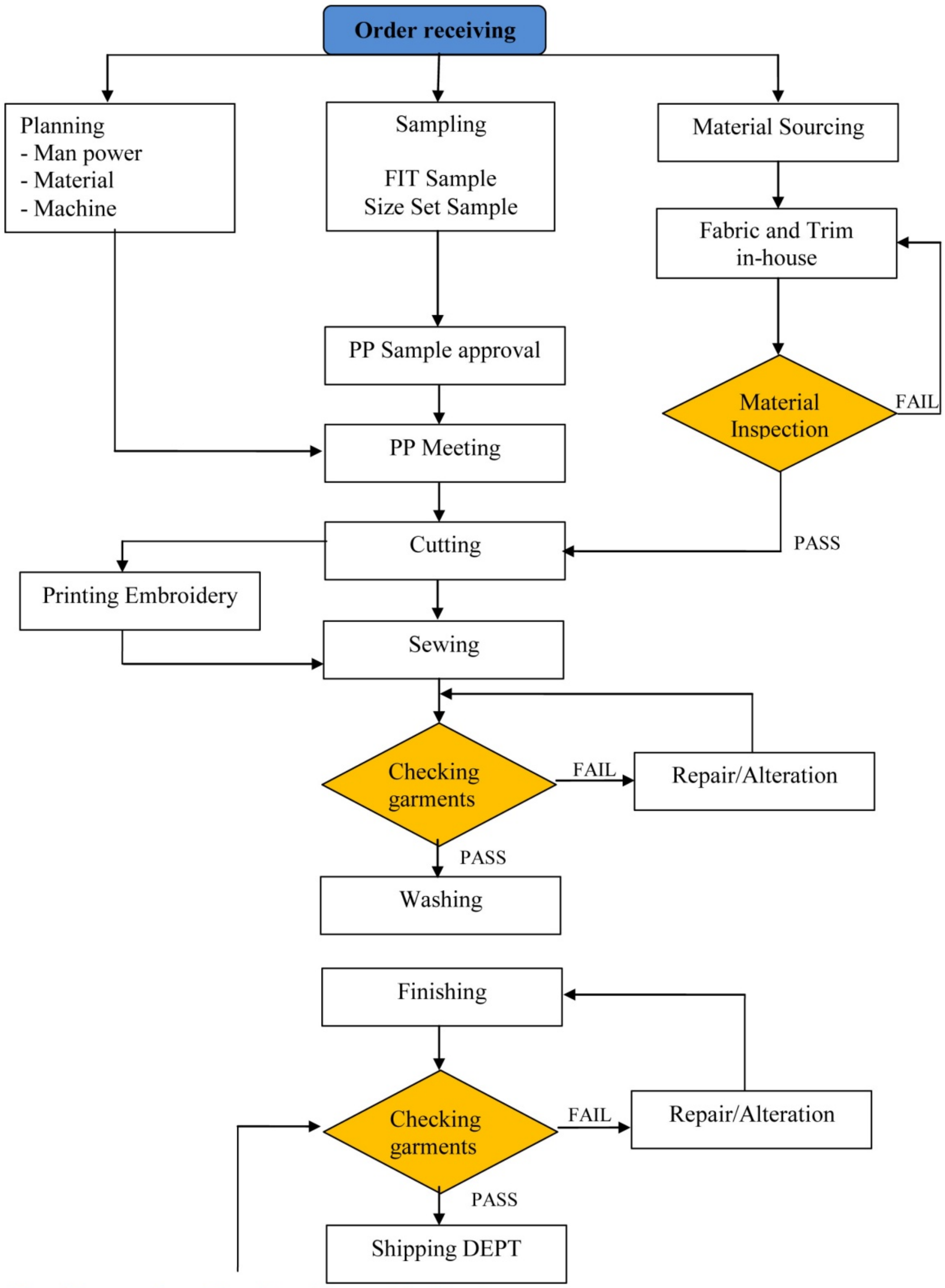


Figure 30: Process Flow Chart of Garment Manufacturing

7.2 Cutting Room Process Flow Chart

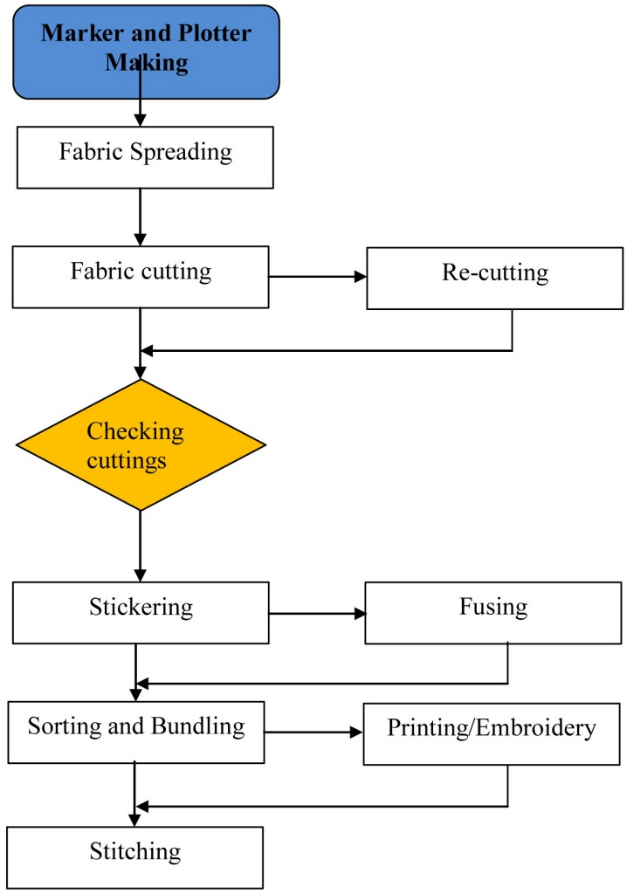


Figure 31: Cutting Room Process Flow Chart

7.3 Garment Finishing Process Flow Chart

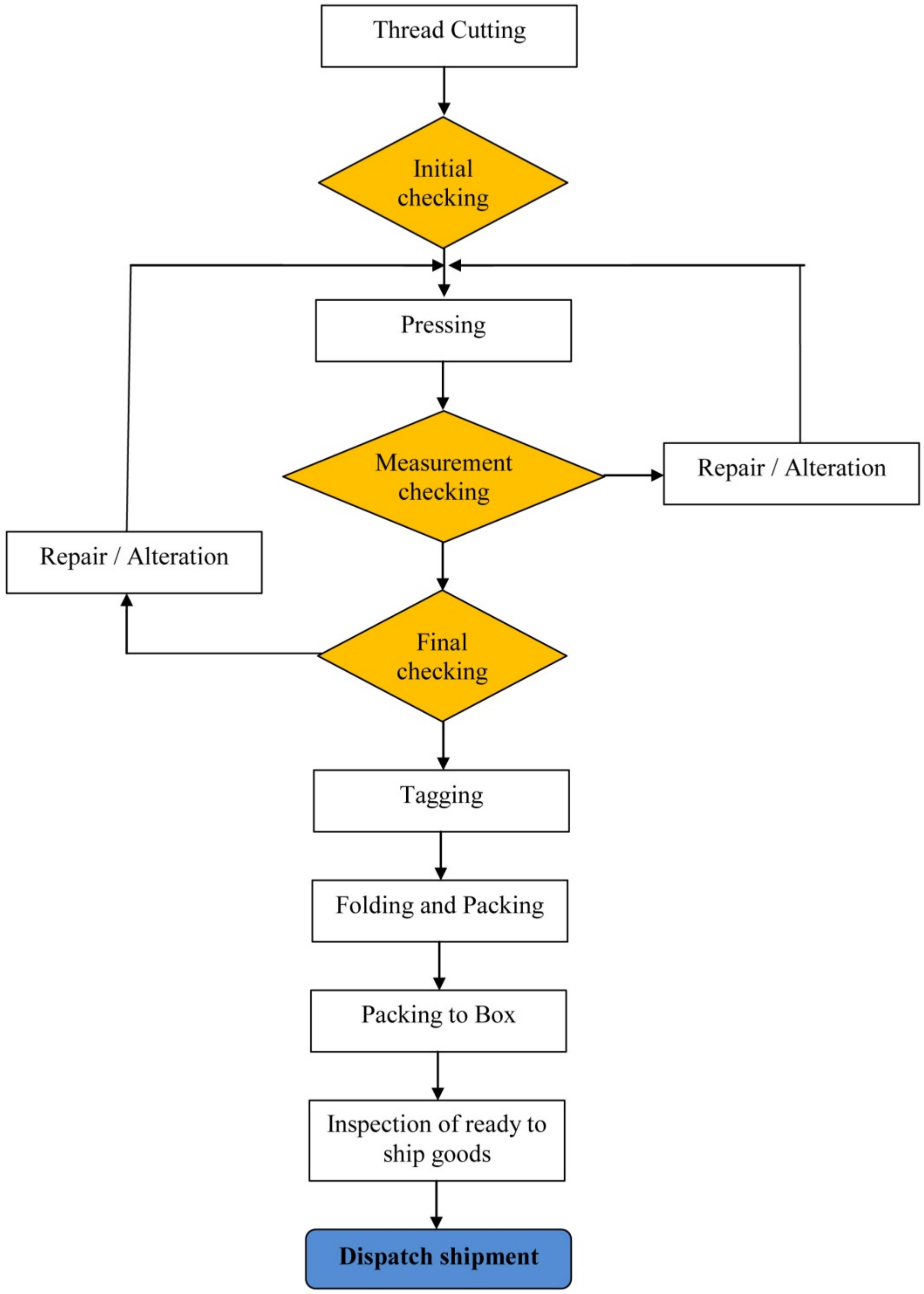


Figure 32: Finish Products Flow Chart

7.4 Process Flow Chart for Sewing Operations of Formal Jacket

Jacket is one of the most basic garments in men's clothing. Jackets are categorized as formal Jackets and casual Jackets. In this article it will be learnt the process flow of Jacket making after cutting to prior to fishing process.

One who is new to garment manufacturing and want to start Jacket manufacturing business, would be interested to know, how to make a Jacket. In this article, it will show everybody flow of operations in a chart with operation details of a format Jacket. Here 'operation' means name of job or task applied to join Jacket components.

The Jacket everybody wear, has number of components those are joined together by means of stitches. Stitches are made by using sewing machines. Number of seam types are used to construct a Jacket. Depending on the machine availability seam types in Jacket may vary.

In the following, it has listed operations those are commonly used in mass production using industrial sewing machines. Read types of machines used for Jacket making. For everybody better understanding the construction of a formal Jacket, it has listed operation name part wise. Following table shows operations with a sequence number.

7.4.2 Process Flow chart of Sewing Operations:

The process flow chart of a formal Jacket sewing is shown in the following diagram. Numbers inside the circles represent operation name those are shown in the above table. Jacket parts are prepared first and later those parts are assembled one by one.

Stitching Operation Flow Chart

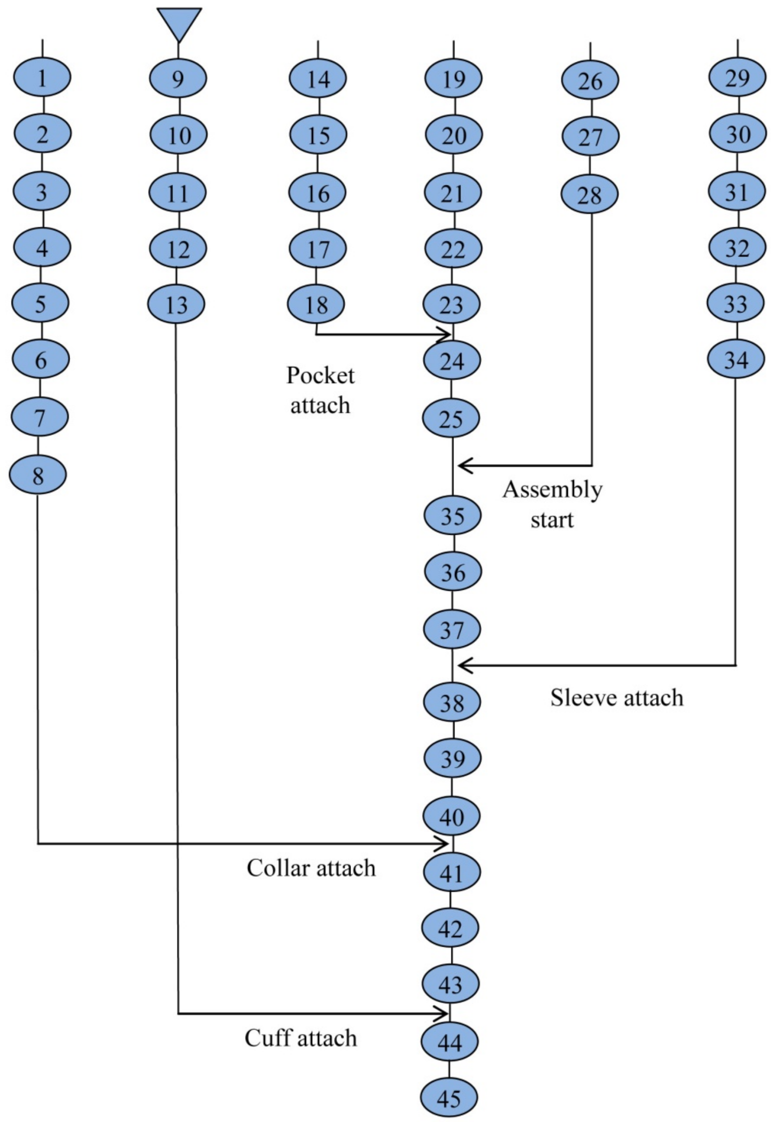


Figure 33: Sewing Operation Flow Chart

The information from the QC report can be digitalized and incorporated into the ERP system of the company. Digital version of the QC report should be able to satisfy the needs for providing the necessary information and making the work process easier. The following picture illustrates an IT solution as QA support in the company. Beside features like, attaching pictures, adding comments and generating electronic document that can be send via e-mail, the IT solution for QA support should be able to keep history records and making statistical analysis.

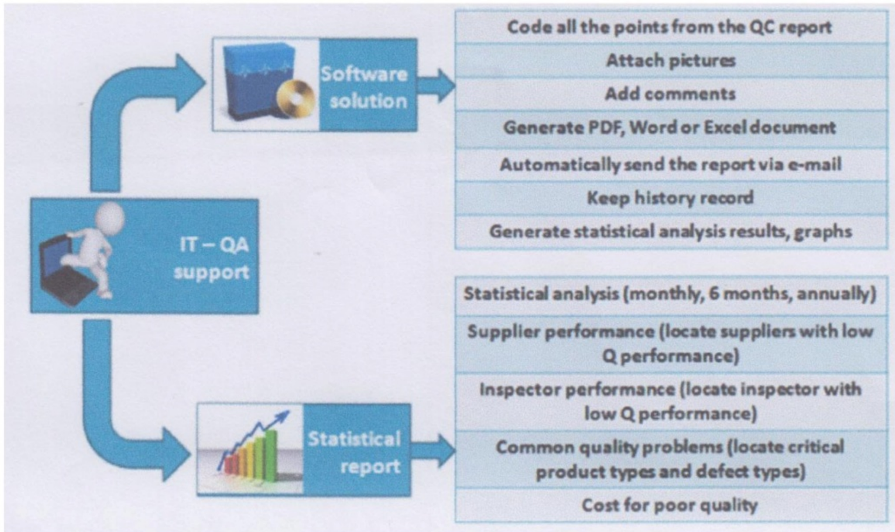


Figure 34: IT Based MIS System for data analysis

Statistical analysis can be conducted based on the historical data from the QC reports. The analysis can be designed according to the needs for QA. The Statistical analysis report can present the supplier performance in terms of quality during the last 3 months, 6 months or one year. That will help the QA manager to have visual image about suppliers who have had bad performance during the last period. To know the biggest quality problems or the most problematic product types Pareto analysis can be done based on data collected from quality inspection reports. Also his kind of analysis can show the cost due to low quality (rework, 2nd choice pieces, delay). On the other side, the analysis can locate problems related to quality inspectors and their performance. An extended list of statistical analysis can be done, and it is presented in addition.

It can do analysis based of last 3 months data. Following parameters can be considered while collecting data. You can use multiple forms instead of one. Later make matrices for supplier performance on various parameters.

- Number of orders per supplier;
- Number of pieces per supplier;
- Cost of orders;
- Type of products per supplier;
- Number of RTS orders;
- Number of defective pieces;
- Cost for poor quality (2nd choice pieces, rework, delay);
- Type of defective product types (color, sizes);
- Type of defects;
- Number of defects per piece;
- Number of defects per order;

- Supplier name (responsible for low quality);
- Inspector name (responsible for low quality);
- Department (occurring the low quality);
- Inspected orders per QC inspector;
- Inspected quantity per QC inspector;
- Travel distance (to supplier) per QC inspector;
- Type of products per QC inspector;
- Number of orders without approval (raw materials approval, sample approval, size set approval);
- Number of orders with late approval;
- Number of delay delivery date orders;

By knowing the existing quality problem, it is much easier to locate the problem causes and came up with solution for problem solving.

The most important thing is that the QMS should be accepted and understood by all the participants in it. They need to follow the work standards and get the knowledge from the statistical data that can be used for problem solving and setting goals for the future.

Chapter 8 Environmental Impact Identification

8.1 Environmental Impacts in Proposed Factory

The environmental impacts of factory operation should be checked and outline of specifies construction (renovation) and operation activities at the project site on the surrounding environment and note any significant impacts. The Management plan should also explain the methodology used for determining significant impacts and reference any previously performed environmental studies of similar factory that provides more extensive assessment of these kinds of impacts. The environmental impacts that must be assessed, at a minimum, air emission, surface water, ground water, soil condition, noise and vibration, traffic and waste management.

1. Air Emission Impacts

Source of air Emission Impact is from Generator, Air Compressor and traffic for loading, unloading products. The study point is information regarding dust, gaseous pollutants and particular (PM) and Odour, Humidity in processing line also.

a. Dust

Dust or PM may be emitted from various operation activities including traffic, wind from outside. That's why should accomplish that identifying of all types of dust emission and source present during different phase of minor construction and operation (major), other pertinent information related to these mentioned components.

If need to check and list of machines, emission standard limited from Government and other known international standards.

b. Gaseous Pollutants and Particulate Matter Impacts

Gaseous pollutants such as nitrous oxides (NOx) sculphure oxides (SOx) and Volatile organic compounds and PM may be emitted from various decommissioning activities such as vehicles, generators, equipments.

It can identify all types of gaseous emissions and PM, sources and flow rates present during different phase of operation and other pertinent information related to these components surrounding area.

A listing of applicable and local emission standard limits and other known IFC, World Bank, international standards.

c. Odour

Operation activities have the non potential to cause odour problems which cannot be a nuisance and may cause negative health impacts.

It should take into account the presence of chemical compounds that cause odours and checking to accomplish the following.

- It identifies and describes the likely sources of odour.
- It specifies the qualities or characteristics of any odours.
- It determines the concentration by measuring the amount of odour-causing chemical in an air sample.
- It discusses the anticipated odour intensity. (e.g- point of detection, distinct odour faint odour)
- It identifies the relevant maximum allowable limits from ADB, IFC and World Bank, Rule and regulation from MOCAF (processing).

2. Surface Water Impacts

Study of surface water should provide detailed surface water impact related to storm water. This information should include the following.

- A base map that contains boundary lines of the projected industry site and the nearest storm drain.
- Identification of industrial directive from Heavy industry, YCDC for Local storm water, rules and objectives.
- An analysis of site limitation and development constraints that includes factor such as topography, soil erodibility, depth to bed rock, ground water level, erosion control, the evaluation of site suitability for proposed storm water.

3. Soil and Ground Water Impacts

The study of soil and ground water in factory and surrounding area should include the following information.

- A summary of the site's geology (e.g- physiography, stratigraphy, tectonic structures.)
- Soil and ground water characteristic (e.g- chemical and physical analyses, ground stability)
- Seismology (seismic events, seismicity, presence of liquefiable soils)
- Potential impacts from construction activities to the soil and ground water.

4. Terrestrial Ecology Impacts

The discharge of effluent to land and Water body, public drains can generate some impacts on wild life, vegetation, and soil Quality of surrounding area.

a. Discharges to land

It needs to arrange description of points and disposal methods, volumes of discharge.

- A label is prepared at storage warehouse listing of physical and chemical properties of raw material, any discharge including toxic characteristic.
- If it is required to mention the description of any flora or fauna in the surrounding area and water body including endangered or sensitive species, any discharge can impact these or not.
- The relevant maximum allowable limits from ADB, World Bank, YCDC and ministry of Heavy industry, other international standards.

5. Waste Management Impacts

The activities of the Waste Management Impacts in factory are conducted as follow during operation period. All of these activities is to manage solid waste, liquid waste, hazardous waste especially fragile glass bottle, chemical compounds.

Solid Waste

All of anticipated solid and semi-solid waste will be generated during the operation period. Factory and associated supporting infrastructure are constructed. That's why it is not required to mention the EMP and Impact during the construction period.

The information of check list include the following,

- The source of solid waste and the average and maximum generation rates.
- The type of solid waste (e.g industrial waste and its nature (ie. Hazardous and non-hazardous).
- Identification of materials to be recycled or composted and method to do so (eg. On site collection by contractor at factory, reuse, recycle etc.)
- Dealing with service provider such as YCDC for Disposal transfer and sewage.
- The physical, chemical and biological properties of solid waste, waste water before and after treatment and Results, a compassion with the standard limits of YCDC and Ministry of Heavy industry.

Liquid Waste (Effluent)

It needs to check the detail procedure of process line and supporting energy, water and working place, the following items,

- The identification of all liquid inputs, chemical and waste (effluent) including the types, quantities and source, specification of raw material, finished product.
- By source, the amount anticipated the average and maximum discharge rate, and the discharge pipe diameter of waste water.
- The type of waste (eg. Industrial, cooling, cleaning index) and waste risk analyses (ie. Hazardous, nonhazardous, Toxic)
- The method of treatment including diagrams that show units, treatment efficiency, chemical (s) used, design and maximum treatment capacity, and type and quantities of liquid and solid waste (sludge) generated.
- The methods and volumes of liquid waste storage before and after treatment.
- The means of discharge, specifying the point of discharge, the final discharge (eg, sewer network, storm water network, water body) and the means of transportation (if present)
- A no-objection letter from the concerned parties (surrounding and YCDC) if the effluent is to be discharged to the public drain (or) sewer system)
- The analysis of anticipated discharge quantity and quality form production.
- International and concerned government department's discharge consent limits and discussion of the process level of compliance (if).

Hazard Waste

The information about anticipated hazardous waste generation during the operation process should be checked and included I impact analyze, the following items are impact cafeteria for this hazard waste.

- Identification of all hazardous waste and the types, quantities and source.
- Information on storage locations of chemicals, hazardous waste and associated potential impact to the environment at from spills.

6. Health impacts

All of workers should be examined medical checkup before starting operation and quarterly due to security directive.

- There is two diseases to workers due to cooperation,

  (1) Occupational disease

  (2) Work related disease

- According to labour law
- It should arrange to prevent these impacts.

7. Safety impacts

Nature of work at factory should be checked for providing PPE, awareness of knowledge relating to concerned job which is accident to them or not, how to prevent it also.

8. Social impact

Quality life, such as education, daily income, welfare direct and indirect employment is mostly positive impact.

Anticipated Environmental and Social Impact and mitigation Measures

1. The environmental and social impacts can be categorized as either primary or secondary primary impacts are those, which are attributed directly by the project and secondary impacts are those which are indirectly induced and typically include the associated investment and changed patterns of social and economic activities by the proposed actions. The details of criteria opted for impacts assessment are as per described following.
2. The environmental impacts may includes all those that are beneficial or adverse, short or long term (acute or chronic) temporary or permanent , director indirect, and local or regional.
3. The adverse impacts may include all those leading to harm to living resources, damage to human health, hindrance to other activities, reduction of amentias, damage to cultural and heritage resources, and damage to physical structures.
4. For each identified potential environmental impact, the associated environmental risk is assessed based on its likelihood and significance.
5. The proposed report, the impact assessment is being performed in three steps.

   Step A. Identification of interactions between activities and environmental receptors.

   Step B. Identification of potentially significant environmental impacts.

   Step C. Evaluation of all significant environmental impacts.

In Step A, based on the description of activity proposed to be under taken and environmental base line description a detailed matrix of activities and environmental receptors is prepared. Then based on the legal frame work and baseline environment data, it is determined whether an interaction exits between and activity and a receptor.

In Step B based on the interactions identified in step A, potentially significant impacts due to the proposed changes are identified. The impacts may be beneficial/adverse, direct/ indirect, reversible/ irreversible and short-term/ long term as per criteria given in table.

	I	Wa	/	W	N	Lan	
Office Activities (ZKG Asia Limited)							
Electricity consumption (for lighting, air conditioning, office equipment and other purposes)		✓					
Consumption of papers		✓					
Consumption of cartridges for printers , copies , fax machines				✓			
Use/release of CFC substances (e.g. refrigerants for air conditioning units)							
Domestic wastewater discharge (from pantry , flushing) to foul sewers							
Disposal of waste (general refuse)		✓					
Disposal of toner cartridges	✓						
Disposal of fluorescent lamp	✓						
Disposal of batteries			✓				
Disposal of recyclable waste (paper, plastic, aluminium cans)							
Potential fire							
Canteen							
Use of detergents and sanitisers				✓			
Use and release of refrigerant from refrigerators							
Discharge of wastewater				✓			
Oily fumes emissions							
Disposal of general refuse							
Disposal of food waste		✓					
Disposal of oil / grease waste						✓	

Table 20: Environmental Impacts for Production Process

Environmental Aspects	Potential EnvironmentalImpacts						
	Resource Use	Waste Management	Air Ammision	Water Pollution	Noise/ Vibration	Land Contamination	Others
Blending of raw cotton I spinning / weaving / knitting							
Use of electricity							
Noise emission from machinery operation	✓				✓		
Dust emission from all various processes							
Generation of rejected cotton or yarns		✓					
Use of lube oil for various machinery	✓						
Generation of waste lube oil							
Bleaching							
Use of electricity							
Noise emission (from workshop)					✓		
Use of bleaching chemicals				✓			
Generation of wastewater			✓	✓			
Spillage or leakage of bleaching chemicals							
Dyeing							
Use of electricity							
Noise emission (from workshop)					✓		
Use of chemicals (dye)	✓						

Generation of wastewater							
VOC emission from dye mixing			✓				
Spillage of dye							
Generation of rejected products		✓					
Printing							
Use of electricity	✓						
Noise emission (from workshop & fan)					✓		
Leakage of liquid dye or chemicals							
Generation of wastewater							
VOC emission from paint mixing							
Generation of rejected products		✓					
Handling of materials and chemicals							
Use of packaging materials			✓				
Storage of chemicals / hazardous substances							
Disposal of empty chemicals container							
Spillage of chemicals							
Pattern Cutting, Sawing & Stitching for clothe making							
Use of electricity							
Noise emission from machinery operation					✓		
Use of materials (threads / linings / needles etc)							
Disposal of extra linings or broken needles		✓					
Packaging / Delivery							
Use of cardboard and wooden planks							
Exhaust emissions from vehicles			✓		/		
Disposal of paper waste		✓					
Disposal of plastic waste		✓					
Dispodal of packaging waste		✓	✓				
Raw food storage & cleansing							
Use of food (e.g. meat , vegetables and fruits, etc)		✓					
Use of water (washing)	✓						
Use of electricity for equipments (e.g. refrigerator)							
Use of oil and seasonings						✓	
Use of refrigerants	✓						
Discharge of oil / grease into the effluent							
Disposal of food waste		✓			✓		
Disposal of spent oil / portable oil						✓	
Disposal of grease trap waste		✓					
Disposal of recyclables (e.g. aluminum cans, glass bottles, plastic containers , waste oil, tin containers etc.)							
Disposal of packaging materials (e.g. carton boxes)		✓					
Potential expired food		✓			✓		
Cooking							
Use of fuel	✓						
Use of water							
Use of electricity for equipments (e.g. oven)							
Use of oil and seasonings							
Disposal of food waste		✓					
Disposal of spent oil / portable oil						✓	
Disposal of grease trap waste						✓	
Discharge of oil / grease into the effluent						✓	
Oily fumes emissions					✓		
Emergency power outage	✓						
Potential leakage of Towngas							
Preserving & Packaging							
Use of chemicals		✓		✓			
Use of water							
Use of fuel	✓						
Use of packaging materials	✓						
Use of electricity for equipments (e.g. refrigerator)	✓						

Disposal of packaging materials (e.g. carton boxes)		✓					
Distribution							
Fuel consumption by vehicle	✓						
Type of fuel consumed (legal)							
Noise produced by vehicle					✓		
Exhaust air emissions			✓		✓		
Discharge of vehicle wash water		✓					
Venting of refrigerants from air conditioning unit of vehicles							
Vehicle maintenance : waste generation (old parts, contaminated wastes, lubricant oil disposal)		✓				✓	
Potential oil leakgae						✓	
Selection of maintenance and repair services provider						✓	
Others							
Use of electricity for A/C							✓
Use of electricity for lighting	✓						
Use of electricity for equipments (e.g. dish-washing , washing machine)				✓	✓		
Pest control - use of insecticide / rodenticide by contractor							✓
Storage of chemicals (solid alcohol fuel / others)			✓	✓			
Emergency power outage	✓						

Table 21: Environmental Impacts for Facilities Maintencance

Environmental Aspects	Potential EnvironmentalImpacts						
	Resource Use	Waste Management	Air Ammision	Water Pollution	Noise/ Vibration	Land Contamination	Others
Water pump room							
Use of electricity for pumping water	✓						
Noise from operating water pump					✓		
Pontential leakage of water pipes				✓			✓
Ventilation system / air conditioning system							
Use / release of CFC substances (e.g. refrigerants for air conditioning units)	✓						
Noise from ventilation system					✓		
Water cooling tower							
Use of water							
Use of electricity	✓						
Air scrubber							
Use of water							
Use of electricity							
Use of alkali solution							
Emissiort of treated air							
DI water generator							
Use of chemicals (e.g. caustic soda , hydrochloric acid , ion exchange resins)				✓			
Disposal of empty chemicals container		✓		✓			
Wastewater discharge from regeneration				✓			
Potential spillage of chemicals (e.g. strong acid / alkaline)						✓	✓
Emergency electricity generator							
Use of fuel (diesel)	✓					✓	
Potential fuel spillage						✓	
Air emission from operation			✓				
Noise from operation					✓		
Boiler operations							
Use of water	✓						
Use of fuel							

Use of chemicals							
Steam emission				✓			
Discharge of wastewater				✓			
Disposal of chemical waste				✓			
Landscaping							
Use of water	✓						
Use of fertilizer				✓			
General maintenance							
Use of chemicals (e.g. paint , adhesives , lub oil , and organic solvent)							
Use of gloves		✓					
Use of cleaning rags		✓					
Use of fire extingusihers							
Noise from maintenance operation							
Discharge of wastewater (facility / floor cleaning) to Shenzhen Industrial Estate's central wastewater treatment plant							
Disposal of spent tube oil , hydraulic oil , heat transfer oil and solvent						✓	
Disposal of spent rags and gloves		✓					

Table 22: Summary of Potential Adverse Environmental Impacts

Activity	Potential impacts	Direction		Impact Significance	Mitigation possible	Duration		Location		Magnitude		Extent	
		Positive	Nagitive			Long	Short	Direct	Large	Small	Wide	Local	
Construction	Soil	✓		In	✓	-	✓	✓	-	✓	-	✓	-
	Water	✓	-	In	✓	-	✓	✓	-	✓	-	✓	-
	Air	✓	-	In	✓	-	✓	✓	-	✓	-	✓	-
	Sediment	✓	-	In	✓	-	✓	✓	-	✓	-	✓	-
	Flora	0	-	-	✓	-	✓	✓	-	✓	-	✓	-
	Fauna	0	-	-	✓	-	✓	✓	-	✓	-	✓	-
	Hazard	✓	-	InHazards	✓	-	✓	✓	-	✓	-	✓	-
Operation (processing)	Soil	0	-	-	-	-	0	0	.	.	.	.	-
	Waste	✓	-	In	✓	-	✓	✓	-	✓	-	✓	-
	Surface	0	-	-Surfaced	✓	-	✓	✓	-	✓	-	✓	-
	Ground	✓	-	InGrounds	✓	-	✓	✓	-	✓	-	✓	-
	Emission	✓	-	Emissions	✓	-	✓	✓	-	✓	-	✓	-
	Dust	0	-	-	-	Dusts	0	0	.	.	.	.	-
	Noise	0	-	-	-	-	0	0	-	-	-	-	-

*** The ✓mark indicates the existence of impact,**
^ * N = Negative P = Positive 0 = Nil *** In = Insignificance Impact**

*** Sig = Significance Impact**

Table 23 *Impact Analysis Matrix*

Sr No.	Environmental Aspects	Potential Impacts	Scale	Extent	Permanence	Likelihood	Duration	Significance
Operational Phase								
1.	Ground Water Quality	Disturbances to the ground water depletion	Low	Regional	Irreversible	High	Long	High
		Water contamination	High	Local	Irreversible	High	Long	High
2.	Air Quality	Air pollution	High	Local	Reversible	High	Long	Low
3.	Noise	Noise pollution	Low	Local	Reversible	Low	Long	Low
4.	Hazard vulnerability	Fire	High	Local	Irreversible	Less	Short	Low
		Accidents with chemicals	High	Local	Reversible	High	Long	High
5.	Waste Generation	Water Contamination	High	Local	Reversible	High	Long	High
		Air pollution	High	Regional	Reversible	High	Long	High
6.	Energy	Climate change	High	Local	Irreversible	High	Long	High
7.	Socio-economic	Increase in Employment	High	Regional	-	High	Long	High
		Negative social Impacts	High	Local	-	High	Long	High

Health Impact Mitigation in Factory

There are some factors and conditions that influence individual and employee health outcomes in factory. Some of these factors can be controlled by individuals. E.g- smoking while others are beyond the control of an individual. E.g- Air quality. Anything that alters a determinant of health may result in an impact on health (positive or negative).

Most of employee working in Garment factory, their health status depends on associations between environmental and social exposure and health status which are bi-directional, with a stronger influence of social disadvantage on poor health. It decided that factors of employment, physical activity, air quality, risk of injury and water quality, food, life style and factory environment can provide positive impact on health.

Table 24 *Key factors that determine health*

Fixed	Social and Economic	Lifestyle and behaviors	Access	Environment
1. Genes	Poverty	Diet	Education	Air Quality
2. Sex	Employment	Physical Activity	Health	Noise
3. Ageing	Socialexclusion	AlcoholSmoking	Social	Housing
	Community Structure	SexualBehavior	Transport Leisure	Social Environment

Environmental Management System

Inspection of factory is based on safety; Health and Environmental issue and the following management system are for environmental protection measure.

a. Air Emission Management
b. Fuel Management
c. Solid Management
d. Domestic Sewage management
e. Work Place safety and Hygiene

f. Noise Management
g. Energy conservation and Water conservation Management

Actually these management system are complying the law of Ministry of environmental conservation and forestry such as

1. Knowledge of governmental regulation, safety standard and Health care of employee.
2. Knowledge of electrical-material handling, sanitation standard, fire caution

8.2 Chemicals in textile Garment Factory

The process from fibre to finished textile is long and includes many steps in the textile production. Fibres and textiles are treated in a variety of chemical processes. In each step of the process, different chemicals are used for different purposes. There is a great variety of chemicals that can be used in textiles. Pesticides and fertilizers are frequently used in natural fibres production. Other chemicals used in textile production include chemicals in dyes, processing chemicals, water or stain repellents, performance enhancing coatings or treatments, flame retardants etc. Some of these chemicals are designed to remain within the finished product, whereas others are present as a carry-over from the manufacturing.

8.2.1 Hazardous chemicals

Chemicals may have many kinds of hazard properties; some are corrosive, some affect the neurological system etc. Therefore, when using the term “hazardous substances”, it is important to define which hazardous properties these substances are supposed to have. The health classifications chosen are: Carcinogenic, Mutagenic, and Toxic for Reproduction; Category 1A and 1B, which means that the chemicals have been shown to be carcinogenic, mutagenic, or toxic for reproduction in humans or in animal tests. Substances with such classifications are highlighted in the environmental objective “A Non-Toxic Environment” and in the REACH Regulation (EC) No 1907/2006. Environmental exposure may occur both during production and later on during consumer use of textiles through leaching via washing or when the textile is disposed of. For protecting the environment, we have included the most severe classification category: Aquatic Chronic 1. It should be noted though that this does not cover for example vPvB (very Persistent and very Bio accumulative) substances that may in the individual case be of similar or even higher concern for the environment than a substance classified as Aquatic Chronic.

Table 25 Textile process chain

The textile process chain with examples of chemicals and auxiliaries used, there chemical composition, examples of their effe cts and in which steps of the process

Process	Chemical agents	Effect	Chemical composition
Manufacturing of man-made fibres, coning, texturising, spinning, twisting, winding, warping, weaving, knitting	Preparation agents (preparation agents for primary spinning, lubricants, conditioning agents, coning oils, warping oils, twisting oils, knitting oils)	Increasing processability, protection of fibres/yarns; adjusting of friction properties; impart of antielectrostatic properties; improve of coning, texturising etc.	Mineral oils, common fatty acid esters, ethylene oxidepropylene oxide adducts, hindered fatty acid esters, polyolesters, polyester-polyethercarbonates, silicones, additives (emulsifiers, antistatic agents, corrosion inhibitors, anionic/non-ionic surfactants)
Sizing	Sizing agents, sizing additives	Protection of warp yarns during weaving (Applied in weaving mills)	Macro-molecular natural or synthetic products (starch, modified starch, modified cellulosis, polyvinyl alcohol, polyacrylates, polyesters) Additives (oils, waxes, starch solubilising agents (peroxides))
Pre-treatment			
A I 1 pre-treatment steps	Fibre protecting agents	Protection of the fibre and reduction of affection of the fibre during pretreatment processes	Protein fatty acid condensates and Guanidinium derivatives
Desizing	Desizing agents	Removal of sizing agents	Enzymes (amylases) for enzymatic desizing; mono- and dipersulfates for oxidative desizing; surfactants, complexing agents
Scouring (kierboiling)	Scouring auxiliaries	Removal of fibre by-products (fats, waxes, pectines, inorganics etc.) from cellulose fibres in cellulose materials or blends of cellulose fibres with synthetic fibres	Strong alkali; alkaline-resistant and electrolyte resistant surfactants (fatty alcohol ethoxylates, alkane sulfonates), complexing agents
Bleaching	Bleaching auxiliaries	Bleaching, whitening.	Peroxide, sodium chlorite, sodium hydroxide, complexing agents, surfactants stable in acidic or alkali conditions, silicates, polycarboxylic acids, sugar polymers as peroxide stabilisers, nitrates (anti-corrosion), polyacrylamide (creasepreventing) sodium sulfite, enzymes (catalases) to remove peroxide surplus
Mercerising	Mercerising auxiliaries	Increase in dyestuff uptake and tensile strength of textiles by means of alkali treatment under tension	Strong alkali (sodium hydroxide; ammonia); wetting agents, stable in highly concentrated lyes (low molecular weight alkyl sulfates, alkane sulfonates), antifoaming agents as shorterchain alkyl phosphates, complexing agents

Table 26 Non-exhaustive list of chemicals that may be found in the final textile product

No	Name of the chemical substance	CAS	Included in the REACH Candidate List	Respiratory sensitsation 1/1A/1B	Skin sensitization 1/1A/1B	Carcinogenic category 1A/1B	Mutagenc category	Toxic to Reproduction Category 1A/1B	Environmentally hazardous, longterm effects Aquatic Chronic
1	Formaldehyde	50-00-0	No	No	Yes	No	No	No	No
2	Distannoxane, hexabutyl	56-35-9	Yes	No	No	No	No	No	No
3	Phenol, 2,3,4,6-tetrachloro	58-90-2	No	No	No	No	No	No	Yes
4	Benzenamine, 4-(phenylazo)-	-72	Yes	No	No	Yes	No	No	Yes
5	Benzenamine	62-53-3	No	No	Yes	No	No	No	No
6	Formamide	75-12-7	Yes	No	No	No	No	Yes	No
7	1(3H)-Isobenzofuranone	77-09-8	No	No	No	No	No	Yes	No
8	Formamide	75-12-7	No	No	No	Yes	No	No	No
9	Acetamide, 2-chloro	79-07-2	No	No	Yes	No	No	No	No
10	Phenol, 4,4'-(l-methylethylidene)bis	80-05-7	No	No	Yes	No	No	No	No
11	Benzene, 1-(1,1-dimethylethyl)-3,5-dimethyl	81-15-2	No	No	No	No	No	No	Yes
12	1,2-Benzenedicarboxylic acid, bis(2-methylpropyl)	84-69-5	Yes	No	No	No	No	Yes	No
13	1,2-Benzenedicarboxylic acid, dibutyl ester	84-74-2	Yes	No	No	No	No	Yes	No
14	1,3-IsobenzDfurandione	85-44-9	No	Yes	Yes	No	No	No	No
15	Benzenedicarbolylic acid, butyl phenyl	85-68-7	Yes	No	No	No	No	Yes	Yes
16	2-Metoxy bensene amine	90-04-0	No	No	No	Yes	No	No	No
17	Methanone, bis[4-(dimethylamino)phenyl	90-94-8	Yes	No	No	Yes	No	No	No
18	Naphthalene	91-20-3	No	No	No	No	No	No	No
19	Naphthalenamine	91-59-8	Yes	No	No	Yes	No	No	No
20	1,1'-Bipheny1]-4,4'-diamine, 3,3'-dichloro	91-94-1	No	No	Yes	Yes	No	No	Yes
21	1,1'-Biphenyl	92-52-4	No	No	No	No	No	No	Yes
22	1,11-Biphenylj-4-amine	92-67-1	Yes	No	No	Yes	No	No	No
23	Benzene, 1,2-dichloro	92-87-5	No	No	No	Yes	No	No	Yes
24	Benzene, 1,2-dichloro	95-53-4	No	No	No	No	No	No	Yes
25	Benzenamine, 2-methyl	95-53-4	Yes	No	No	Yes	No	No	No
26	Benzenamine, 4-chloro-2-methyl	95-69-2	No	No	No	Yes	No	No	Yes
27	1,3-Benzenediamine, 4-methyl	95-80-7	Yes	No	Yes	Yes	No	No	No
28	Propane, I,2-dibromo-3-chloro	96-12-8	No	No	No	Yes	Yes	Yes	No
29	Propane, 1,2,3-trichloro	96-18-4	No	No	No	Yes	No	Yes	No
30	Benzenamine, 2-methyl-4-	97-56-3	Yes	No	Yes	Yes	No	No	No

31	Thioperoxydicarbonic diamide, tetraethyl	97-77-8	No	No	Yes	No	No	No	Yes
32	Benzene, (trichloromethyl	98-07-7	No	No	No	Yes	No	No	No
33	Benzenamine, 4,4'-methylenebis[2-chloro	101-14-4	Yes	No	No	Yes	No	No	Yes
34	Benzenamine, 4,4'-methylenebis[N,N-dimethyl	101-61-1	Yes	No	No	Yes	No	No	Yes
35	Benzenamine, 4,4'-methylenebis	101-77-9	No	No	Yes	Yes	No	No	No
36	Benzenamine, 4,4'-oxybis	101-80-4	Yes	No	No	Yes	Yes	No	No
37	Benzene, 1,4-dichloro	106-46-7	No	No	No	No	No	No	Yes
38	Benzenamine, 4-chloro	106-47-8	No	No	Yes	Yes	No	No	Yes
39	1,4-Benzenediamine	106-50-3	No	No	Yes	No	No	No	Yes
40	Ethane, 1,2-dibromo	106-93-4	No	No	No	Yes	No	No	No
41	Ethane, 1,2-dichloro	107-06-2	No	No	No	Yes	No	No	No
42	2-Propenenitrile	107-13-1	No	No	Yes	Yes	No	No	Yes
43	Ethanedial	107-22-2	No	Yes	No	No	No	No	
44	1-Octadecanam ini um, N,N-dimethyl-N-octadecyl-,	107-64-2	No	No	No	No	No	No	Yes
45	Ethanol, 2-methoxy-	109-86-4	No	No	No	No	No	Yes	No
46	Ethane, 1,2-dimethoxy-	110-71	No	No	No	No	No	Yes	No
47	Ethanol, 2-ethoxy-	110-80-5	No	No	No	No	No	Yes	No
48	Cyclohexane	110-82-7	No	No	No	No	No	Yes	
49	Ethane, 1,1'-olybis[2-methoxy	112-49-2	No	No	No	No	No	Yes	No
50	2,5,8,11-Tetraoladodecane	112-49-2	No	No	No	No	No	Yes	No
51	Ethanol, 2-chloro-, phosphate (3:1)	115-96-8	Yes	No	No	No	No	Yes	No
52	1,2-Benzenedicarbolylic acid, bis	117-81-7	Yes	No	No	No	No	Yes	No
53	1,2-Benzenedicarboxylic acid,	117-82-8	Yes	No	No	No	No	Yes	No
54	Benzene, hexachloro- 118-74-1	118-74-1	No	No	No	Yes	No	No	Yes
55	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy	119-90-4	No	No	No	Yes	No	No	No
56	[1,1'-Biphenyl]-4,4'-diamine, 3,31-dimethyl	119-93	No	No	No	Yes	No	No	No
57	Benzenamine, 2-methoxy-5-methyl	120-71	Yes	No	No	Yes	No	No	No
58	Benzene, 1,2,4-trichloro-	120-82	No	No	No	No	No	No	Yes
59	Benzene, l-methyl-2,4-dinitro	121-14-2	No	No	No	Yes	No	No	Yes

8.3 Environmental Aspect Type of Impact Significant Mitigation Measure and Comments

8.3.1 Construction and Renovation of Building

Table 27 Construction and renovation of building

(a)	Geology and Soils	Soil erosion	Medium	Stumping as opposed to uprooting shall be employed to clear vegetation along foundation line in order to avoid soil erosion used as land fill . Potential Impacts and Mitigation Measures.
(b)	Hydrology	increased sediment load to public drain	Moderate	Construction work shall be done with care and all drainage areas shall be fitted with sediment fraps.
(c)	Water quality	Pollution of surface and ground water	Low	1. Water pollution from workers - temporary camps will be minimized as camps will be far from water source. 2. used oil and fuel should not be drained in water channel.
(d)	Air Quality	Air Pollution	Low	1. Arrange Net around working area to protect dust emission. 2. Vehicles shall slow down to minimize dust emission. 3. When necessary, water shall be sprinkled in working and dust area.
(e)	Noise	Noise disturbance to the existing factory	Low	1. Arrange silencer and exhaust at generator. 2. Vehicles shall slow down to minimize noise.
(f)	Waste Production	Pollution from domestic waste pollution from construction material	Low	1. Oil leakage shall not be allowed. 2. Disposal pit shall be built in designated area for use by worker. 3. Rubbish bin shall be provided for waste of construction material.
(g)	pollution from construction work worksite Land Environment	- concrete waste - used oil / fuel - organic waste from workers - Sanitation	Low	Care shall be taken to avoid pollution for these with disposal bin, disposal transfer and designated toilets.
(h)	safety and Emergency	Accidents from work	Moderate	❖ To prevent injuries, workers shall wear boots / helmets and other protective attire. ❖ Safety signs shall be placed in store of construction site, construction area, fuel storage. ❖ Fire fighting extinguisher will be placed at work site. ❖ First aid and safety / fire drill will be educated to construction workers with notice and trainning.

8.3.2 Impact from Construction Activities

The potential impacts to land and soil on site and surrounding area are as follows;

1. the proximity of event, process or activity to public drain, ground water.
2. a description of discharge points and disposal methods.
3. Information on volumes of discharge from waste.
4. A list of chemical and physical properties of any discharge including toxic characteristics
5. The relevant maximum allowable limits from YCDC, Heavy industries and MOCAF.

8.3.3 Control plan in Environmental Management Plan

Responsible person and allocating budget is proponent , their management committee and part of production cost.

- Air quality control plan
- Erosion and sediment control plan.
- Soil and ground waters contamination plan
- Water quality, storm water quality control plan
- Noise and vibration control plan
- Traffic control plan
- Waste management control plan
- Chemical and hazardous materials control plan
- Contingency plan
- Emergency management plan
- Security plan
- Safety and health management plan
- Infrastructure plan
- Labour welfare

All of these control plan is not only for construction period but also for operation period.

Environmental Management Plan for Construction period is added up this following plan

- A description of the works to be undertaken.
- Sequences of work.
- Details of proposed normal working hours.
- Equipment and plant to be used .
- Vehicle access routes , list of activities for which each access point is to be used.
- Method of delivery / removal of materials and plant.
- Providing labour camp / toilets / material storage / disposal area.
- Construction travel plan including proposal for shared travel car parking restriction.

- Location of secure storage facilities for tools and equipment.
- Training for construction safety, fire fighting and waste management

8.3.4 Construction Phase Monitoring

- Sewage: Ensure that workers have access to acceptable toilet facilities at the work site and check septic tank weekly monitoring.
- Sand / aggregate supply: Routinely monitor the dump site at the work site with dust control material (. Net).
- Solid waste management : Ensure that solid waste management plan is prepared, and that workers are aware that no solid waste material should be scattered around the site . Monitor availability and location of skips,/ dump site, weekly monitoring.
- Monitor the disposal of refuse to ensure that dump sites not overfilled. (Weekly monitoring)
- Monitor the waste water drain , oil spill at generator house and machine maintenance area. (keep used oil with containers and sell to reuse contractor)
- Exposed soil areas, sand dump site area must be monitored to determine potential for erosion, silting and sedimentation especially during rainy season, weekly monitoring.
- During the site clearing activities, stockpiles of soil and vegetative debris generated should be monitored and maintained to eliminate generation of dust, daily monitoring.
- During excavation period of foundation, maintained to excavated soil for land fill.
- Noise levels along the parameters of the project area should be monitored and recorded to insure that activities at the site are not exceeding standards (weekly monitoring)
- Equipment staging area, store area, and parking areas for machine, truck must be monitored from release smoke, dust and potential impacts (weekly monitoring)
- Regular inspection of internal drainage system, toilets, dump site should be performed to ensure that all of these area to safeguard that it meets or exceeds standards.

8.4 Summary Matrix of Predicted Impacts and Mitigation Measure during operation period

Table 28 Summary matrix of predicted impacts and Mitigation measures during operation

Sr. No.	Environmental components	Potential Impact	Source of Impact	Control through EMP and design	Impact Evaluation
1.	Ground water Quality	Ground water contamination	Surface Water	✓ sewage treatment plant ✓ awareness campaign for reduced water use by employee	No negative impact on ground water quality envisaged. Not significant
2.	Surface water Quality	Surface water contamination	surface water from factory during domestic - use at toilet / dining room	specific drain from these area will be constructed and connected to public drain.	No off factory site impact envisaged as no surface water receiving body hear by. Not significant
3.	Air Quality	Emission of SPM, SO_2, NO_x and CO	✓ Power generation through DG set operation ✓ Operation of compressor, and vehicles coming to factory. ✓ Operation of air condition, exhaust fan.	- Use of low sulfur diesel and NO_x retarder if required emission control exaust at DG set - Improved maintenance of equipment - Greenbelt to be provided with specific trees reducing SPM level	No significant - dust generation is temporary - D.G set would be used as power backup - individual stack with an increased height will lower all pollutants.
4.	Noise Environment	Noise emission	Noise from Gen set, compressor, vehicles Air Condition	✓ Use of well maintained equipment ✓ Checking of equipment vehicle ✓ Providing acoustic enclosure and wall surrounding D.G set compress or	Not significant - Short term exposure

Sr. No.	Environmental components	Potential Impact	Source of Impact	Control through EMP and design	Impact Evaluation
5.	Land Environment	Soil contamination	Waste oil handling from D.G set	Waste oil generated will be sold to authorized recycler	- Negligible impact - Not significant
6.	Solid waste	- Health impact - five	-Raw material storage Area - Operation area - Dining room/office -Dumping of municipal solid waste on land fill	- Solid waste generated will be sold to recycle contractor - Disposal transfer with YCDC	- Negligible impact - Not significant
7.	Sewage waste	- Health impact - Air	- Septic tank - Toilets	Proposed sewage management system for waste collection storage and segregation	- Significant - Low impact
8.	Socio Economic impact	Employee	Factory operation	Factory provide employment opportunities during operation period	Beneficial impact
9.	Health	Spreading of communicable disease	Inside / outside factory	- First Aid - Clinic - Hygiene of factory area, Toilet/dining room - Seasonal disease protection	✓ Not significant ✓ according of clinic record
10.	Safety	Accidents from work	At operation	- Providing PPE equipment (Mask, head wear)	- Not significant - Low
11.	Compliance	Worker welfare	At factory	- Providing complaining section - Negotiation with leader - tool box meeting - according to labor law.	- Not significant - Low

1.1	PROPONENT / COMPANY	:	ZKG Texitile (Myanmar) Co.,Ltd
	CHIEF EXECUTIVE OFFICER	:	
	HSE MANAGER	:	
	POSTAL ADDRESS	:	No.(50)Shwe Myodaw Zaydi Lan, Yangon, Industry Zone(Mingalar don Garden Park)
	TEL / FAX	:	Tel, 951-684040, 951 - 64044
	E-MAIL	:	
1.2	PROJECT NAME / TITLE	:	ZKG Textile (Myanmar) Co., Ltd
		:	
		:	
1.3	PROJECT LOCATION	:	Mingalardon Industrial Zone
1.4	ECONOMIC ZONE	:	

Attach Location Map which clearly shows the site of the project in relation to the surrounding area inside the economic zone, including important landmarks and access points. Indicate Location Map as shown

2.0 PROJECT DESCRIPTION

2.1 PROJECT COST : US $ 2 million

2.2 PROJECT AREA COVERAGE

(Attach Site Development Plan as **Annex 2 A**, Vicinity Map as **Annex 2 B** & picture of the proposed site as **Annex 2 C)**

Total Land Area	:	2 Acre	(Ha or sq.m)	
Area to be developed for the Project *Project will involve construction of new building/s*	:	2 Acre	(Ha or sq.m)	❑ N.A.
Area to be occupied for the project	:	2 Acre	(Ha or sq.m)	❑ N.A.

Project will ONLY involve renovation / occupancy of existing building/s

2.3 DESCRIPTION OF PROJECT PHASES

2.3.1 PRE-OPERATION / CONSTRUCTION PHASE

2.3.1.1 *Manpower Requirement* : 50 persons

2.3.1.2 *Buildings and facilities to be* : 4 buildings

☐ Constructed ☑ Occupied / Renovated

Type of Facility / Building	No. of floors	Floor Area (sq.m)
☐ Administration / Office	2	
☐ Factory / Production	1	
☐ Raw materials storage area	1	
☐ Recreation / Gymnasium		
☐ Canteen	1	
☐ Wastewater Treatment Facility	1	
☐ Water Treatment facility	1	
☐ Machine Room / Building	1	
☐ Hazardous Waste Storage Area	1	
☐ Solid Waste Storage Area	1	
☐ Fuel Depot	1	
☐ Others ,specify add more space if necessary		

2.3.1.3 *Construction Schedule (When applicable)*

Activity	Duration (Calendar Days)
☐ Mobilization / demobilization	About 1 month
☐ Earthworks	
☐ Structural Works	Abuot 4 months
☐ Architectural Works	About 1 month
☐ Painting Works	About 1 month
☐ Plumbing and Sanitary Works	About 4 months
☐ Electrical Works	About 2 months
☐ Mechanical Works	About 4 months
☐ Fire Alarm System	About 2 months
☐ Telephone and Network System	
☐ Others ,specify add more space if necessary	

2.3.1.4 *Renovation Schedule (When Applicable)*

Activity		Duration (Calendar Days)
☑	Demolition of Structure	1 week after finished
☐	Partitioning	
☑	Painting	About 1-2 months
☐	Floor Polishing	
☑	Ceiling Installation	About 3-4 months
☑	Rewiring	About 2 – 3 Months
☑	Equipment Installation	About 2 – 3 Months
☐	Commissioning	
☐	Others ,specify add more space if necessary	

ECC # of Leased Building

2.3.1.5 *Water Supply*

Source: Ground Water Daily Consumption: ______ Cum/day

2.3.1.6 *Power Supply*

Source: Normal Electric Power lines Daily Consumption: ______ Cum/day

2.3.2 OPERATION PHASE

2.3.2.1 *Description of Activity / Process (Attach Flow Chart, indicate as **Annex 2 D**)*

2.3.2.2 *Plant Operation Schedule*

Average	8	Hrs/day	6	Days / week
Maximum	8	Hrs/day	6	Days/ week

2.3.2.3 *Raw Materials and Finished Products (List all raw materials including chemicals to be used and check source, add more space if necessary*

Raw Materials	Toxic? (Y / N)*	Quantity	Local	Imported
Fabric	N		☐	☑
Plastic Bags	N		☐	☑
Needle	N		☑	☐
Sewing Machine	N		☑	☑
Button	N		☑	☑
Zips	N		☑	☑
Thread	N		☐	☑
			☐	☐

2.3.2.4 *Production Capacity (Specify all product types, add more space if necessary)*

Product	Quantity per year

2.3.2.5 *Manpower Requirement*

Number of administrative personnel : About 20 persons

Number of Production personnel : 500 – 600 persons

Total :

Shifting Schedule : ☐ 3,8-hr shift ☐ 1,8-hr shift ☐ 2,12-hr shift ☐ Others

2.3.2.6 *Production Capacity (Specify all product types, add more space if necessary)*

Equipment	Quantity
Jacket	55,000 Doz per year
Pants	55,000 Doz per year
Socks	7,000 Doz per year
Sleeping Bags	7,000 Doz per year
Head Masks	7,000 Doz per year
Gloves	14,000 Doz per year

2.3.2.7 *Power Supply (Specify all power sources, add more space if necessary)*

Supplied by	Output capacity (KVA)	Quantity
☐ Nat'l Power Corp.		
☑ Own/ Standby Generator	400 kw/ 500KVA 600 Kw/750 KVA	2
☐ Ecozone Power Plant		
☐ Other , specify		

2.3.2.8 *Water Supply (Specify all water sources, add more space if necessary)*

Source	Description	Volume for Extraction	
		Domestic	Industrial

☐Ecozone Water Supply			
☐Surface Water			
☑Own Deep Well	2	At present 500 liter / day	
☐Rainwater Collection			
☐Others, specify			

2.3.2.9 *Type of water treatment(to be provided for independent water source)*

☐Chlorination ☐De-ionization

☐Filtration ☐Others, specify ____________

☑Reverse Osmosis

2.3.2.10 *Wastewater Generation*

(Check applicable sources and indicate type of pollutant and estimated volume, add more space if necessary)

	Wastewater Source	Estimated Volume	Pollutants	
			Toxic*	Conventional
☐	Production Process	300 Liter / day	☐	☑
☐	Washing / Cleaning		☐	☑
☐	Cooling		☐	☐
☐	Domestic Wastewater	150 liter / day	☐	☑
☐	Recycle/ Reuse Water	50 liter / day	☐	☐
☐	Others ____________		☐	☑

	Wastewater Source	Mode of treatment for Wastewater		
		Own WTP	Connect to CWTF	Send to TSD facility
☐	Production Process	☑	☐	☐
☐	Washing /Cleaning	☑	☐	☐
☐	Cooling	☐	☐	☐
☐	Domestic Wastewater	☑	☐	☐
☐	Recycle/ Reuse Water	☐	☐	☐
☐	Others ____________	☑	☐	☐

Total volume

Receiving body of water: ____________

DAO 90 – 34 Classification: ____________

2.3.2.11 *Proposed wastewater treatment facility*

(Attach company's own wastewater treatment facility la-out , indicate as ***Annex 2E)***

Capacity of WTF: Cu.m / day

Physical	☐ Screening ☐ Oil-water Separator	☐ Equalization ☐ Sedimentation	☐ Grit Removal ☐ Others,_______
Chemical	☐ Adsorption ☐ Flocculation / Coagulation	☐ Disinfection	☐ pH Adjustment ☐ Others,_______
Physical	☐ Sequencing Batch Reactor ☐ Rotating Biological Contactor ☐ Stabilization Pone	☐ Activated Sludge ☐ Trickling Filter ☐ AnaerobicDigestion	☐ Others,_______
Sludge treatment	☐ Adsorption ☐ Flocculation / Coagulation	☐ Disinfection	☐ pH Adjustment ☐ Others,_______

2.3.2.12 *Drainage System*

(Attach approved drainage layout plan of the company as Annex 2 F relative to the drainage lay-out of the ecozone)

☑ Open Canal ☐ Closed / Underground Drainage

Where will the drainage system immediately connect?

☐ Public Drainage ☑ Ecozone Drainage ☐ Natural Water Body

2.3.2.13 *Sewage Disposal System*

(Attach sewage disposal layout as Annex 2 G)

Type: ☑ Individual Septic Tank ☐ Communal Septic Tank

Capacity : 200liter per tank

Specify mode of discharge / treatment

☐ Individual Septic Tank
☐ Treated in a centralized WTF of the ecozone
☐ Proponent's WTF
☐ Others, specify ______________________________

2.3.2.14 *Industrial Waste Inventory (Identify the wastes that shall be produced)*

☐ Acid Wastes (such as sulfuric acid, hydrochloric acid, nitric acid etc)

☐ Alkali wastes (such as caustic soda, caustic potash, alkaline cleaners etc.)

☐ Asbestos Wastes

☐ Ceramics/Ash/Mineral Wastes

☑ Contaminated Containers (those previously containing chemicals, paints etc.)

☐ Fertilizers and Pesticide Wastes

☐ Glass Wastes

☐ Immobilized Wastes (solidified, chemically fixed & encapsulated wastes)

☐ Inorganic Chemical Wastes (such as arsenic, boron, cadmium etc.)

☐ Leather Wastes
☐ Metal Wastes(Such as metal shaving, grindings etc.)
☑ Oil (such as waste oils, oil / water mixtures)
☐ Organic Sludge
☐ Organic Solvents(such as halogenated, aliphatic,aromaticcompounds)
☑ Paints/Inks/Dyes
☐ Paper wastes
☐ Pathogenic or Infectious Wastes

- ☐ Pharmaceutical Wastes and drugs
- ☑ Plastic Wastes
- ☐ Plating Wastes
- ☐ Putrescible Wastes (such as grease trap wastes, animal wastes)
- ☐ Reactive Chemical Wastes (such as explosives, reducing and oxidizing agents)
- ☐ Resins/Lattices/Adhesives
- ☐ Rubber Wastes
- ☐ Styrofoam Wastes
- ☐ Tannery Wastes
- ☑ Textile Wastes
- ☑ Wood wastes

2.3.2.15 *Air quality Management* (Identify if any of the following shall be installed)

- ☑ Power Plant
- ☑ Stand-by Generator
- ☐ Furnace
- ☐ Ovens (smoke, bake ovens etc)
- ☐ Varnish Kettles
- ☐ Paint Booths
- ☐ Scrubbers
- ☐ Boilers
- ☐ Incinerator
- ☐ Rotary Kiln

2.3.3 ABANDONMENT PHASE

- **Identify all facilities that shall be abandoned**
- **List all wastes to be generated and the mode of treatment and disposal**

Activity	Duration (calendar days)
☐ Demolition of structures	
☐ Equipment removal & transfer	
☐ Chemicals & unused materials transfer	
☐ Scraps & wastes removal & transport	2 days
☐ Remediation of contaminated sites	
☐ Others, specify add more space if necessary	

3.0 **IMPACT ASSESSMENT AND MITIGATION**

LEGEND: D - direct impact In- Indirect impact
L - Long term S - Short term
R - reversible I - irreversible

1.0 PRE-OPERATION / CONSTRUCTION PHASE

	PREDICTED IMPACTS	**Significance of Impacts**			**Mitigating / Enhancement Measures**
		D/In	**L/S**	**R/I**	
	☐ Increase in dust generation due to clearing, civil works and earthmoving activities	In	S	I	Ø Regular watering of unpaved roads or exposed soils / ground o Remove soil from tires of trucks and equipment before leaving the area o Hauling trucks should be covered with canvass or other material o Set-up temporary fence around the construction area
	☐ Top soil removal and loss due to earthmoving activities, transport, access road construction				o Stockpile the top soil in a safe place and use as final grading o As soon as possible, rip-rap or re-vegetate the area
	☐ Erosion from exposed cuts and landslides due to earthmoving and excavation activities				o Conduct construction activities during dry season o Reduce exposure of opened cuts o Installation of barrier nets
	☐ Sedimentation/siltation of drainage or waterways from unconfined stockpiles of soil and other materials				o Set-up temporary silt trap/ponds to prevent siltation o Proper stockpiling of spoils (on flat areas & away from drains) o Spoils generated shall be used as filling materials
	☐ Pollution of nearby water body due to disposal of construction wastes				o Set-up temporary disposal areas within the construction area & properly dispose the solid wastes. o Set up adequate toilet facilities o Strictly require the contractor & its workers to observe proper waste disposal and sanitation
	☐ Generation of employment				o Hiring priority shall be given to qualified local residents
	☐ Increase in the incidence of accidents	In	S	I	Ø Strictly require the contractor and its workers to follow safety rules and regulations during construction

2.0 OPERATION AND MAINTENANCE PHASE

	PREDICTED IMPACTS	Significance of Impacts			Mitigating / Enhancement Measures
		D/In	L/S	R/I	
	☐ Nuisance/hazards to nearby residents and properties	D	S	I	Ø Provide sufficient buffer area Ø Buffer area shall be vegetated with trees Ø Fencing of the area
	☐ Air pollution caused by dust, fume generation	D	S	I	Ø Provide air pollution control facilities
	☐ Contamination of surface/ ground water from domestic and industrial liquid waste	D	S	I	Ø Provide an effective septic tank o Provide adequate wastewater treatment facilities for the generated industrial wastewater
	☐ Contamination of the workplace/environment from hazardous waste generation	D	S	I	o Provide an adequate hazardous materials storage facility equipped with secondary containment o Only DENR-accredited transporters and treatment and storage facilities of hazardous wastes shall be allowed to handle the hazardous wastes
	☐ Nuisance/hazards caused by solid waste generation	D	S	I	Ø Provide an adequate slid waste segregation / storage facility Ø Training of employees to practice waste management Ø Ensure regular collection of waste materials for disposal o Only PEZA-accredited scrappers shall be allowed to obtain scraps Ø Garbage collectors shall dispose the wastes only in controlled dumpsites or sanitary landfill
	☐ Vibration caused by machine operation	D	S	I	Ø Provide vibration control measures(e.g. shock absorber, damper/isolator, spring isolator
	☐ Noise generation	D	S	I	Ø Provide noise control measures (e.g. insulator, muffler, silencer)
	☐ Offensive odors	D	S	I	Ø Provide tightly sealed containers, masking agents, etc.

3.0 ABANDONMENT & REHABILITATION PHASE

	PREDICTED IMPACTS	Significance of Impacts			Mitigating / Enhancement Measures
		D/In	L/S	R/I	
	☐ Increase in dust generation due to demolition works				○ Implement regular watering and provide safety nets to suppress dusts and escape of debris
	☐ Sedimentation / siltation of drainage or waterways from unconfined stockpiles of soil and other materials				○ Set-up temporary silt trap/ponds to prevent siltation ○ Proper stockpiling of spoils (on flat areas and away from drainage routes) ○ Spoils generated from demolition works be disposed as filling materials
	☐ Contamination of ground/ surface water from hazardous substances left after operation				○ Remove all hazardous substances and rehabilitate the area to restore its aesthetic / economic value
	☐ Loss of jobs of the employees	D	S	R	○ Outplacement or referral system will be in place prior to retrenchment and closure of the facility

4.0 ENVIRONMENTAL MANAGEMENT

Project / Activity Phase	Potential Environmental Impact	Mitigating & Enhancement Measures	Estimated Cost of Proposed Measures	Responsible Person / Unit
Construction	Increase in dust generation due to clearing , civil works and earthmoving activities	o Regular watering of unpaved roads or exposed soils / ground o Remove soil from tires of trucks and equipment before leaving the area o Hauling trucks should be covered with canvass or other material o Set-up temporary fence around the construction area o Stockpile the top soil in a safe place and use as final grading o As soon as possible, rip-rap or re-vegetate the area o Conduct construction activities during dry season o Reduce exposure of opened cuts o Installation of barrier nets o Set-up temporary silt trap/ponds to prevent siltation o Proper stockpiling of spoils (on flat areas & away from drains) o Spoils generated shall be used as filling materials o Set-up temporary disposal areas within the construction area & properly dispose the solid wastes o Set up adequate toilet facilities Ø Strictly require the contractor & its workers to observe proper waste disposal and sanitation o Hiring priority shall be given to qualified local residents o Strictly require the contractor and its workers to follow safety rules and regulations during construction		Sub Contractor Sub contractor Sub contractor Sub contractor Sub contractor Sub contractor Factory Factory

Project / Activity Phase	Potential Environmental Impact	Mitigating & Enhancement Measures	Estimated Cost of Proposed Measures	Responsible Person / Unit
Operation	Nuisance/hazards to nearby residents and properties	o Provide sufficient buffer area o Buffer area shall be vegetated with trees o Fencing of the area		
	Air pollution caused by dust & fumes	o Provide air pollution control facilities		
	Contamination of surface/ ground water from domestic and industrial liquid waste	o Provide an effective septic tank o Provide adequate wastewater treatment facilities for the generated industrial wastewater		
	Contamination of the workplace/environment from hazardous waste generation	o Provide an adequate hazardous materials storage facility equipped with secondary containment o Only DENR-accredited transporters and treatment and storage facilities of hazardous wastes shall be allowed to handle the hazardous wastes		
	Nuisance / hazards caused by solid waste generation	o Provide an adequate solid waste segregation / storage facility o Training of employees to practice waste management o Ensure regular collection of waste materials for disposal o Only PEZA-accredited scrappers shall be allowed to obtain scraps o Garbage collectors shall dispose the wastes only in controlled dumpsites or sanitary landfill		
	Vibration caused by machine operation	o Provide vibration control measures (e.g. shock absorber, damper / isolator, spring isolator)		
	Noise generation	o Provide noise control measures (e.g. insulator, muffler, silencer)		
	Offensive odors	o Provide tightly sealed containers, masking agents, etc.		

Project / Activity Phase	Potential Environmental Impact	Mitigating & Enhancement Measures	Estimated Cost of Proposed Measures	Responsible Person / Unit
Abandonment	Increase ib dust generation due to demolition works	o Implement regular watering and provide safety nets to suppress dusts and escape of devris		
	Sedimentation/siltation of drainage or waterways from unconfined stockpiles of soil and other materials	o Set-up temporary silt trap/ponds to prevent siltation o Proper stockpiling of spoils (on flat areas and away from drainage routes) o Spoils generated from demolition works be disposed as filling materials		
	Contamination of ground/ surface water from hazardous substances left after operation	o Remove all hazardous substances and rehabilitate the area to restore its aesthetic/ economic value		
	Loss of jobs of the wmployees	o Outplacement or referral system will be in place prior to retrenchment and closure of the facility		

5.0 ENVIRONMENTAL MONITORING PLAN (EMoP)

Project / Activity	Location	Parameter	Frequency	Responsible Person / Unit
Construction Example: Collection of solid waste	Construction area	Scrap metal, wood(identify all)	Weekly / Daily	Contractor
Operation Example: Solid waste generation	Receiving / manufacturing/ Packaging area Solid waste Storage area	Weight of packaging materials / scraps	Daily	EMS Coordinator
Industrial wastewater discharge	Wastewater treatment facility	Conventional Toxis and deleterious pollutants	Quarterly	PCO
Emission source installations	Specify location of ESIs / APCE	TSP, NOx, Sox	Quarterly	PCO
Hazardous waste generation	Manufacturing area	Quantity, storage, labeling	Daily	PCO
	Hazardous waste storage area	Quantity, storage, labeling	Daily	PCO
Work environment	Manufacturing area	Illumination, humidity, noise, temperature	Quarterly	EMS Coordinator
Abandonment Example: Disposal of usable scraps	Manufacturing area	Quantity	Daily	Facility manager
Disposal of hazardous industrial wastes	Hazardous waste storage area	Quantity	Daily	PCO
Collection of solid waste	Demolition area	Quantity	Daily	Facility manager

LABOR INSPECTION

1	Employment Contract	:	According to Myanmar law
2	Labor wages and salaries	:	According to the mutual agreement 1. Class A,Class B (no) 2. Non Scale (70,000 ks / month)-Incentive 120,000 ks per month inclusive over time 3. Office / Staff (110,000 ks per month)
3	Overtime	:	8 hours overtime ,Basic salary x 12 / 2288 hours (not more than 12 hrs per week)
4	Medical Care	:	The social Security (one clinic)
5	Worksite Safety	:	Myanmar rules and regulation law
6	Accident Handling	:	Myanmar rules and regulation law
7	Welfare	:	According to the social welfare law, employers will take responsible on work site accidents and hazardous.
8	Leave Allowance	:	(12) months leave for medical treatment ,continuously (12) days, 10 days casual leave per year, 30 days medical leave with pay per year, maternity leave for 42 days before and after.
9	Holiday Allowance	:	Gazette holidays
10	Working Hours	:	8 hours per day
11	Shift	:	Day shift
12	Lunch time	:	a. 11:30 – 12:00 b. 12:00 – 12:30
13	Others	:	Transport ferry or + 300 kyats, Clinic

Chapter 10 Institutional Requirement and Environmental Monitoring Plan

11.1 Institutional Framework and Environmental Monitoring Program

An environmental management and monitoring plan (EMMP) was prepared to mitigate the potential environmental impacts of the Project and the frequency of environmental monitoring is attached as shown in Table shown below. The agencies involved in executing and monitoring the environmental aspects of the project include DGRI's Sub-Directorate of Environmental Affairs, responsible for managing the social and environmental impacts of garment projects, and provincial works agencies, responsible for environmental monitoring under the IEE. The Project Team consultant will be responsible for incorporating the EMMP into engineering design and undertake environmental monitoring during operation. The field specialists will supervise the monitoring of mitigation measures during construction. In addition, each contractor will be required to nominate an environmental, health and safety manager responsible for meeting the contractors' environmental and health responsibilities.

10.1.1 Responsible for environmental monitoring

Table 29 Responsible for environmental monitoring

Project Stage	Responsible Organization	Responsibilities
Detailed Design	Project Team Consultant Sub-project management and supervision team	Incorporation of mitigation measures into engineering design and technical specification.
	Sub-Directorate of Environmental Affairs	Review and approve environmental mitigation and management measures.
	Contractor	Implementation of required environmental measures
Construction or Renovation	Design and Field Team Site Engineer Field Team Consultants	Supervise contractor's implementation of environmental measures on a daily basis. Enforce contractual requirements
	Field Team Consultants	Audit construction phase through environmental inspections and collection of monitoring data. Submission of quarterly reports. Provision of awareness/training to workers and technology transfer to the contractor.
	Sub-project Management Team Provincial	• Ensure compliance with Government legal requirements during operation. • Review complicated issues that arises from the Project.
Operation	Sub-Directorate of Environmental Affairs and Project Management Team (PMT)	Provide budget to undertake environmental monitoring.
	Management Team	Review monitoring reports
	Sub-Directorate of Environmental Affairs and PMT	Implement the environmental management and monitoring plan

Table 30: Responsible for environmental monitoring

Sr.	Area of Risk	Purpose	Monitoring Activity	Frequency	Responsible Person
1.	Hygiene	Health care and Safety	Check factory area	Daily	House Keeping
2.	Drainage	Drainage line water log	Check drain	Daily	House Keeping
3.	Machinery	Noise and production efficiently	Check machine	Daily	Maintenance Engineer
4.	Truck Movement	Noise Exhaust gas	Check vehicles	Daily	Security Guard
5.	Noise	Machine Maintenance	Check generator / compressor	Daily	Engineer
6.	Air Quality	Humidity and health care /dust	Check air compressor / air conditioners	Daily	Engineer
7.	Water Quality	Health care and Safety	External Agency	Daily	External Agency
8.	Chemical Storage Area	Spill	Check	Daily	Store keeper
	Material Storage Area	Spill	Check	Daily	Store keeper
9.	Generator House	Oil spill	Check	Daily	Engineer
10.	Sewage	over flow /	Check septic tank	Monthly	House Keeping
11.	Solid waste	HSE policy	Training	Daily	House Keeping
12.	Emergency	HSE policy	Training	Daily	Factory Manager
13.	Safety Plan	HSE policy	Training	Daily	Factory Manager

10.2 Environmental Management Training

As a component of the project, the capacity of the Sub-Directorate of Environmental affairs, and provincial agencies will be strengthened through a program of training in basic and advance environmental and social management.

10.3 Public Consultation and Information Disclosure

The IEE process included public participation and consultation to help DGRI achieve public acceptance of the Project. The PPTA Consultant has involved a wide range of participants representing affected people, community leaders, NGOs, provincial governments, and DGRI.

The affected people and the local communities expressed support for the Project perceiving benefits to the community and the region. The main concerns expressed related to the provision of proper drainage, quality construction, proper engineering practices during construction, and transparency in construction work. Responses to these concerns are incorporated in the Project's design.

The IEE report documenting the mitigation measures and consultation process is available for public review. As the public consultation is an ongoing process, additional disclosure and consultation will be done during construction and operation phases through preparation and dissemination of a Project in Myanmar, explaining the affected peoples' entitlements and the procedures for obtaining compensation and recording grievances and setting up a formal grievance redress committee with a representation from the affected people.

10.4 Finding and Recommendations

The IEE study reveals that no significant negative environmental impacts are likely to occur due to the construction activities and normal operations after the proposed rehabilitation. Recommendations are made to mitigate expected negative impacts in the IEE. Positive impacts of the project will be economic and better accessibility in Project areas by enhancing increased trade and economic flow, reduced travel time between the provincial capitals, and improvements in road safety in providing better shoulder. Minor negative impacts are expected during implementation of the civil works in the protected forest and natural reserve by civil works. A special management plan, road sign, information display board, and roadside fence will mitigate this. The cost of these mitigation measures has been included in the Project budget. Environmental and social management and advance environmental training of Government officials at different stages in the project cycle is required and has been included in the Project budget.

Chapter 11 Environmental Management Plan

There are 3 parts based on environmental management plan. They are

1. Safety guideline
2. Health guideline
3. Emergency preparedness

The above mentioned guidelines will be planned at the proposed garment factory and these guidelines are educated to all of employee and employee from concerned department such as storage, House keeping, Maintenance department and production department are required possible knowledge relating to their work.

Preparation of Environmental Management Plan (or) guideline is required for formulation, implementation on monitoring of environmental measures during and after commissioning of this project. This plan will indicate the details as to how various measures have been or are proposed to be taken including cost components as may be required.

Cost of measures for environmental safeguards should be treated as an integral component of the project cost and environmental aspects should be taken into account at following various stages of the project for garment factory.

1. **Concept validation :** Preliminary environmental assessment.
2. **Planning :** Detailed studies of environmental impacts and design of safeguards.
3. **Execution :** Implementation of environmental safety measures.
4. **Operation :** Monitoring of effective of built in safeguards.

The management plan should be necessarily based on consideration of resource conservation and pollution abatement, type of industry, size of production, raw material input and labour force. At the garment factory, most of the important impact control are as following.

1. Liquid effluents
2. Air pollution
3. Solid waste
4. Noise and Vibration
5. Occupational safety and Health
6. House-keeping

7. Human - Resources
8. Transport - System
9. Reuse, Recycle of waste products
10. Emergency Planning
11. Prevention, maintenance and operation of environmental control system
12. Environmental Management Cell
13. Vegetation - Cover (Green belt)

11.1 Liquid effluents

Effluent from garment factory should be treated well to the standards as prescribed by the MOCAF and Government department.

Source of effluent is only from domestic use at toilet / washing basin and dining room.

All of this effluent is running to public drain connected with the factory drain which is open type. Quality of effluent is not containing toxic compounds, oil and grease.



Figure 35: Open type Factory Drain which connect with Public Drain

11. 2 Air Pollution

The emission levels of pollutants from generator and stream - small boilers should confirm to the pollution control standards prescribed by factory act and directives from factory inspection and Boiler Control department under Ministry of Heavy industry.

11.3 Solid Waste

The storage for waste disposal should be checked to verity permeability so that no contaminants percolate into the ground water or public drain.

Waste disposal areas implemented by YCDC should be placed down-wind of villages and far from residential area.

Waste disposal should be classified solid waste, liquid (oily waste), organic waste and reuse, recycle and land fill waste also. All of these solid waste are sold to recycling and reuse-contractor.

There is no reactive materials, toxic materials waste from this garment factory.

Waste water generated from this factory is only domestic use waste water from washing basin and dining room.

Sewage waste is handled and checked by House keeping group to control overfill from septic tank daily.

11.4 Noise and Vibration

Adequate measures should be taken for control of noise and vibration in the factory. Average noise level in production area is 55 db at day time and at generator house when electricity supply from

government is out is not more than 60-65 db at day time. There is no more operation at night time from 8:00 PM to 7:00 AM.

11.5 Occupational Safety and Health

Proper precautionary measures for adopting safety and health standards should be taken. The directives from factories and general labor law inspection department, factory inspection and boiler department are complying with factory's own safety, Health and Environmental policy.

11.6 Current Status of Health, Safety, and Environmental Issues in ZKG Textile (Myanmar)

Some basic information on the common HSE issues which are generally encountered in the apparel industry is appropriate. The list is not intended to be exhaustive, but simply to provide an overview of the major HSE issues which are encountered in apparel factories throughout Myanmar Country.

Common Health, safety and environmental issues in the apparel industry

The HSE issues have been identified as pervasive throughout the apparel industry and certainly are concerns in ZKG Garment Manufacturing Factory which are:

- fire and life safety;
- machine Safety issues;
- chemical use for spot cleaning;
- ergonomics; and
- personal protective equipments (PPE)

11.6.1 Fire and life safety

Fire and life safety issues prevention from many types of potentially catastrophic events, including fire, but also encompasses natural disasters such as hurricanes, floods or earthquakes, and other incidents such as large-scale chemical spills or releases.

Fire safety issues include the fire detection and alarm systems in a factory, and the role of personnel in the events of a fire. The availability of appropriate fire-extinguishing equipments such as portable fire extinguishers, fire hoses, and sprinklers, is merely one of the necessary elements of a fire safety program. The factory personnels must understand the expectations associated with a fire. Planning is critical in several respects, such as coordination with local community services in the event of an incident and appropriate placement of high fire hazard areas, such as flammable liquid storage, within the facility.

The fundamental terms in fire safety of “egress” or the means of “a continuous and unobstructed way of travel from any points” is in a building or structure to a public way consisting of three separate and distinct parts(1)the exit access, (2) the exit, and (3) the exit discharge.

11.6.2 Machine Safety

Machine safety issues constitute an obvious concern in an industry where so many workers operate machinery or use tools. The two principal sources of risks to workers are sewing machines and band knife cutters.

Sewing machines present a range of risks to the operators, both at the point of operation, that is , the needle, and the means of power transmission (The pulley and wheel arrangement) . The needle presents a puncture risk as well as a risk to the eyes of a flying sharp in the event of breakage. At the two in-running points of the pulley (one at each wheel), there is a risk that fingers, hands, long hair,

other body parts, or loose clothing can be caught and pulled between the belt and the wheel, generally , all of these hazards can be mitigated by the installation of appropriate guards.

Blade knife cutters present an obvious hazard to users and even some degree of risk to other workers in the vicinity. Typically, a combination of blade guard and appropriate PPE for the hand(s) of the operators is utilized to reduce the risk of injury.

11.6.3 Chemical usage for spot cleaning

Chemical Use for Spot Cleaning in he apparel industry is an HSE issue which is often addressed inappropriately by factories.

An emphasis on the use of PPE as the primary means of exposure control

The potential adverse health effects associated with exposure to Chlorinated solvents such as trichloroethylene, tetrachloroethylene and dichloromethhane which are generally effective in removing oil spots from apparel materials. And all of these three are associated with some degree of increased risk of cancer, in addition the other toxic effects. Alternative cleaning solvents which are composed of petroleum based hydrocarbons may also are highly toxic.

Generally it is preferable that spot cleaning operations be conducted at a location which is relatively remote from other workers who are not involved directly in chemical use.

However, chemical selection and adequate ventilation do not completely obviate the need for PPE use. If the chemical solvent is applied by spraying, then eye protection is warranted. Also, the likelihood of hand contact with the solvent creates the need for the use of chemical impervious gloves.

11.6.4 Ergonomics

Ergonomics and the associated risks of physical injury is a recently recognized HSE issue in the apparel industry.

Three examples of activities in the apparel industry with possible ergonomic risks are:

Sewing: the risk factors are the repetitive motions associated with the shoulders, elbows, wrists and hands; posture associated with sitting for long periods

Cutting: the risk factors include postural considerations again, although in this case they are associated with standing and bending for long periods, which creates strain on the legs, knees and lower back and the bending and reaching that may be integral to the task, which creates strain on the back and shoulder.

Manual Material Handling: generally the movement of fabrics and other bulk materials, withj risk factors associated with ithe various lifting, bending and twisting activities.

Once ergonomic risks have been identified, there are steps that can be taken to reduce the likelihood of the development of MSDs(Musculoskeletal Disorders). Height adjustable chairs and tables are appropriate since workers will present a range of physical dimensions. Also, periodic work breaks with the opportunity for stretching and muscle-specific exercises may help to reduce the risk of MSDs.

Personal Protective Equipment (PPE) is the last of the common HSE issues. PPE is the least favorable since it is the last resort to protect a worker from particular hazards before there is “exposure” to the body. So for example, an eye guard on a sewing machine is a preferable control to the use of safety glasses in protecting against the risk of flying needle fragments, though they need not be mutually exclusive alternatives

Selection of PPE encompasses the following factors:

- The protective characteristics of the PPE should be consistent with the specific hazard against which its use is intended to protect. Not all types of gloves are intended to protect against the same hazards, or are all types of respiratory protection alike;
- The PPE must fit the workers properly: and
- Depending upon the type of PPE, regular replacement may be necessary to ensure its effectiveness (e.g respirator cartridges of chemical impervious gloves)

11.6.5 Prevention, maintenance and operation of environmental control system

All of these procedures for control system are for the environmental management plan requirements and will comply with environmental legal requirements. These control system are kept checking everyday and maintain these equipments and their efficiency, changing the parts if necessary.

It should prepare that adequate safety precautions should be taken during preventive maintenance of machine (such as - Air condition, Exhaust fan, water supply system at roofing, generator, electrical wiring system) and shut down of the control system, five alarm and emergency exist - way.

If a system of inter-locking with the production equipments should be implemented where highly toxic compounds are involved during washing and dyeing.

11.6.6 House-keeping

Proper House-keeping and cleanliness should be maintained both inside and outside factory. Their scope of work is to clean production area, ware house, toilets, drainage, disposal bins and dining room, oil spill containers and to check over flow of septic tank.

11.6.7 Human Resources

Recruiting of labour, skill of labour, are selected based on education, where they live, basis knowledge. After working in factory, Expert or Technician should arrange Job-training with supervision of management group in factory to become skillful labor for production.

11.6.8 Transport Systems

Proper parking places should be provided for the trucks of import and export cargo, ferry car for employee daily. Some of vehicles by this garment factory should avoid any congestion or blocking of roads. Spillage of chemicals / fuel and grease on road inside the factory may lead to accidents. Proper road safety signs inside the plant should be displayed for avoiding accidents.

11.6.9 Recovery - reuse of waste products

Efforts should be made to recycle or recover the waste materials from the garment factory to the extent possible. The treated liquid effluents can be with conventional method. Conveniently and safety used or drained to outside.

11.6.10 Emergency - planning

Proper disaster planning should be done to meet any emergency situation arising due to fire, explosion, sudden leakage of gas, earthquake etc. Fire fighting equipment and other safety appliances exist way, alarms should be kept for use (how to use, knowledge for prevention method) during emergency situation.

11.6.11 Environmental Management Cell

This factory should identify within its setup a department / section / cell with trained personnel to take up the model responsibility of environmental management as required for planning, implementation and operation of this factory.

11.6.12 Vegetation Cover - Green belt

All of the workers in this factory have to work daily. Due to this situation, they should see green colour during the lunch time and that's way it should have green belt along the fancy of factory, it can control the noise as barrier also.

11.7 Government Labor Law

Management group from factory should implement measures for enforcement of labour laws from government to protect and ensure the right of workers. Their major task work is to control production with wages of employee and minimum wages, employee welfare and promotion of employee's discipline. There should be compliance sector in factory to know the current situation of social and other requirements relating to this garment factory.

11.7.1 Applicable legislation, rules and Guidelines

1. Project proponent need to prepare EMP and monitoring Plan to meet, environmental, legal and other requirements.
2. Parameter of meeting the environmental requirement's legal affairs,

a. Ensuring that legal, directive and other obligation are in corporate in the production process, factory design and waste (environmental control).
b. Communicate legal and other requirements to factory management and employee.
c. Ensure all relevant legal and other requirements and associated documentation (factory license, labour law, approval electrical permit - soon) are readily available at factory.

11.7.2 Proponent's commitment and Responsibility

The factory management group should prepare the working area of factory compound according to the government law from MOCAF and factory act, labour law and Inspection instruction of factory, YCDC directives from concerned department.

1. Proper method of garment manufacturing production.
2. Retain safe machine, support equipment and systems of works.
3. Proper maintenance of machine, handling and storage of raw material, finished product.
4. Provide safe and health working environment.
5. Maintain and monitor good and healthy working area.
6. Monitor employee health record.
7. Advance information for hazards.
8. Ensure employee are informed and educated about safety issue.
9. Issue protective gears for each section of production process.
10. Issue instruction, sign and hold meeting.

11.7.3 Employee Responsibility

Employee and staff from office, store should obey the following tasks under HSE policy.

a. Perform all works following concern procedure.
b. Obey all health and safety instruction.
c. Correctly use personnel protective equipment supplied.

d. Take corrective action to eliminate hazards.
e. To report hazards if any.
f. Maintain high standard of house keeping and clearness in working area.
g. Seek medical treatment for injuries.
h. To report injuries to your supervisor.
i. Comply with all standard operation procedure.
j. Be familiar with fire fighting facilities.
k. Be familiar with emergency and evacuation procedure.

These items include excessive working hours, non-payment of overtime premiums or contracted wages, non-provision of required government benefits, documentation on important labor issues such as age, hours, wages; proper disciplinary processes, discrimination, infringements on freedom of association, violations of local law, non-functioning water treatment facility and life safety violations (emergency exits, fi re prevention). Labor, health & safety, and environmental issues that can be improved in the factory for the well being of workers and/or betterment of the factory's reputation or management practice. For proposed and existing suppliers with issues, a reasonable corrective action plan can be proposed over a 6 month period.

11.8 Plan-Do-Check-Act (PDCA Cycle)

Every Factory or organization, whether public or private, large or small, has an impact on the environment and an interest in achieving good management practices. That helps explain why a growing number of organizations are using Environmental Management System (EMS) to achieve process, resources, Labor, and material efficiencies that translate into meaningful environmental improvements, safer and healthier work places, and improved competitiveness. Many Waste Wise Patterns request information on EMS and guidance on how EMS can be coordinated with their Waste Wise activities. At the same time, Waste Wise has heard from partners implementing their own EMS with great results. An EMS is a formal set of policies and procedures that define how an organization will evaluate, manage and track its environmental impacts, In practice, the specific structure of EMS can vary widely, but most EMS follow a basic "Plan-Do-Check-Act" (PDCA) model that facilities cost effectives environmental performance by defining and continuously improving the process and actions that an organization undertakes to meet its business and environmental goals. Typically, EMS development begins with a policy statement that communicates an organization' environmental priorities to employee, stakeholders, and customers. Management endorsement of the policy statement demonstrates the organization's commitment to the effort and willingness to allocate resources for implementation. Once a policy statement is in place, the organization implements it following the "Plan-Do Check-Act" (PDCA) model, which facilities ongoing environmental improvement. PDCA Cycle is shown in Figure 36

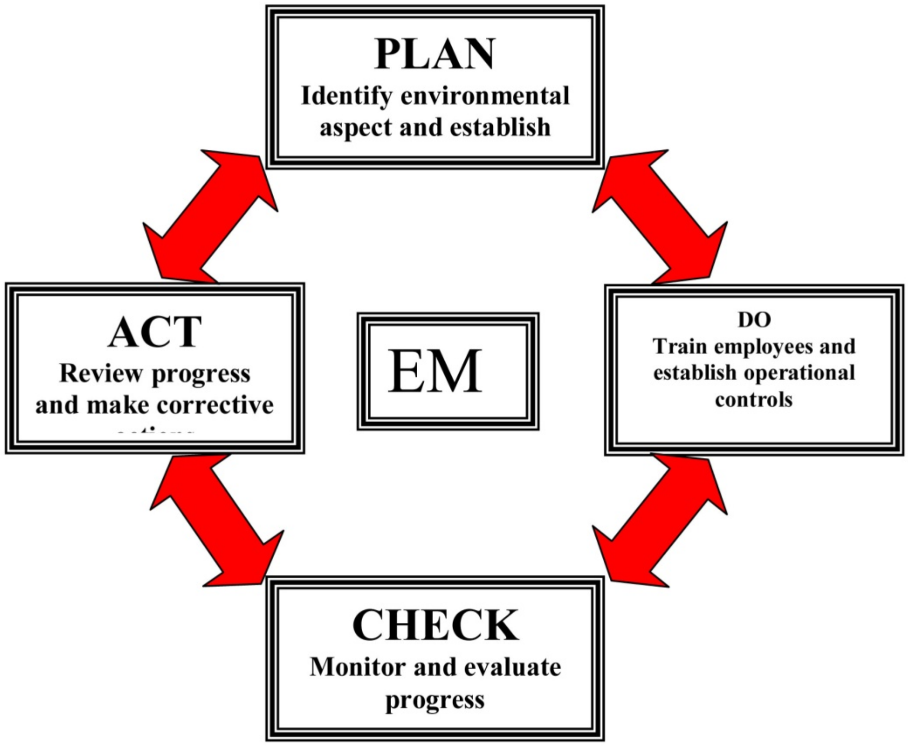


Figure 36: PDCA Cycle

11.8.1 Plan

During the plan phase, an organization identifies all of its environmental aspects –any environmental or health and safety impacts resulting from its products, activities and services. The organization then evaluates each aspect according to a variety of criteria (e.g., environmental and health effects, economic impact, liabilities) to determine which should be treated as significant aspects. After establishing a complete list of significant aspects, the organization sets its environmental goals and developed a plan to achieve those goals.

11.8.2 Do

The "Do" phase of the model involves implementation of the environmental plan through employee training and establishment of operational controls. For an EMS to be effective, each employee must be trained on his or her role in addressing the significant aspects identified by the plan, and procedures must exist for orienting new employees in to the system. Operational controls are procedures that provide direction for employees conducting specific activities and can also include investments in technologies that conserve resources or prevent pollution. For example, if an organization makes paper reduction a high priority, it might invest in duplex copiers to cut down on paper waste.

11.8.3 Check

During the Check phase, an organization evaluates its progress toward meeting its program goals through ongoing monitoring and measuring and periodic internal EMS audits. The success of this phase depends on the organization's ability to accurately monitor and measure key activities and track progress by maintaining a usable recordkeeping system. Tracking environmental progress

allows the organization to quantify successful components of its environmental program and identify areas that need improvement.

11.8.4 Act

Finally, the "Act" phase of an EMS involves taking corrective action to update and improve the environmental Plan. For Example, if an organization makes significant progress on one environmental aspect, another environmental aspect might replace it on the priority list. The process of reevaluating and developing procedures to address the organization's most significant environmental aspects brings the organization back to the "Plan" stage of the process. Procedure of PDCA is shown in Figure 13.2 and Description and Activities of the PDCA is shown in Table 13.1

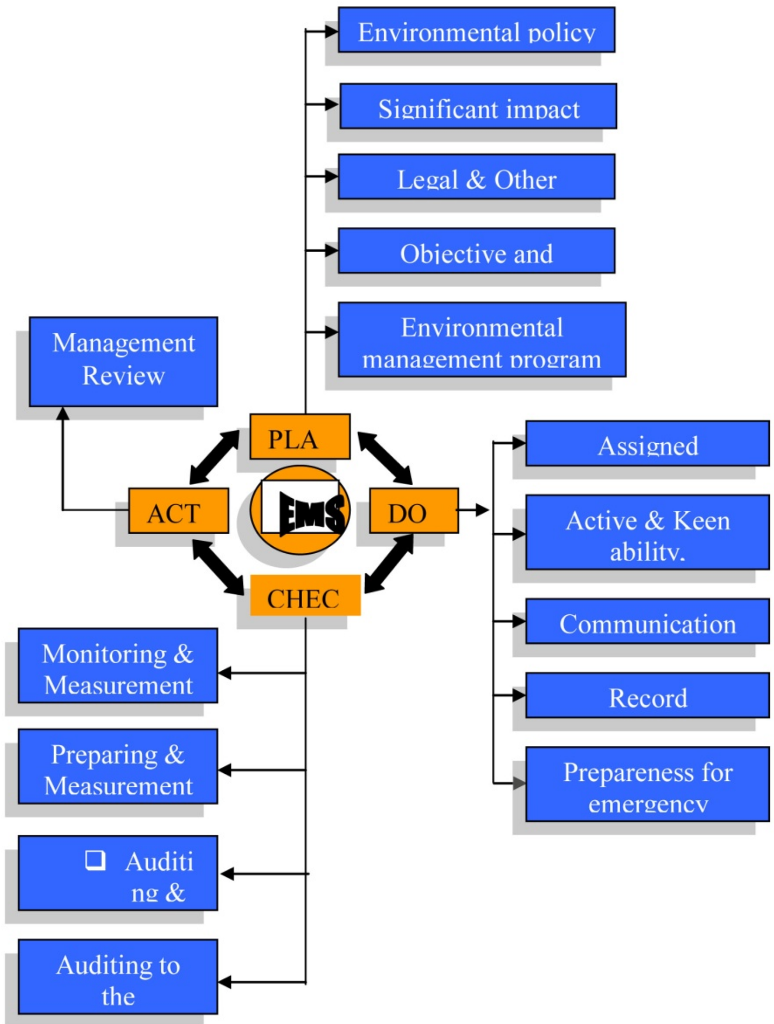


Figure 37: Procedures of PDCA Cycle Flow Sheet

11.9 Description and Activity of the PDCA Cycle

Table 31 Description and Activity of PDCA Cycle

Activity	Item of Standard	Description
Prepare	Initial environmental survey	Organization identifies elements that noticeably affect the environment. Record of past environmental management is also investigated.
Plan	Environmental policy	Independent management philosophy and policies are clearly indicated by top management and understood by all employees.
	Environmental aspects	Elements that affect the environment
	Legal and other requirements	Laws, regulations, ordinances, and voluntary action plans applicable to each activity of the organization are satisfactorily understood. There is an awareness of surrounding installation sites in order to consider effects on the environment. The latest information is obtained and understood.
	Objectives and targets	Specific objectives and targets for achieving environmental policy.
	Environmental management program	Specific techniques for achieving targets.
Do	System and responsibility	Authority and responsibilities are clearly understood within the organization.
	Training, awareness and ability	Knowledge required by organization's members is sufficiently available and there is an awareness of one's responsibilities.
	Communication	Organizational rules concerning reporting and making contact are established.
	Environmental management system documentation	
	Document control	When necessary, anyone in the organization can check the latest version.
	Application management	
	Preparation and response to emergencies	There is an awareness of the environmental effect caused by an earthquake, fire, natural disaster, or other emergency that occurs.
Check	Monitoring and measurement	There are rules for periodically checking the status of progress aimed at target achievement.
	Noncompliance, corrective action and preventive action	Measures are in place not only for taking action after problems occur, but also for preventing problems from occurring.
	Records	
	Environmental management system audits	Are plans for the continuous improvement of the EMS, including ,ISO 90001 and ISO 14001 standards, making suitable progress?
Act	Management review	Managers can monitor the status of the overall organization, and their decisions and instructions are being disseminated within the organization.

Source: Ebara Corporation (2000)

11.10 Environmental Management Plan for SAFETY GUIDELINES

Purpose

Safety committees can identify and correct factory health and safety issues, increase safety awareness, and improve workers' job satisfaction. The purpose of this section is to describe the requirements for having a well-run and effective safety committee. The purpose of the Supreme Garment Factory Safety Committee ("the committee") is to promote a safe working environment at the factory with worker involvement. The committee will give workers a direct voice in addressing safety concerns throughout the factory. Workers who become members of the committee will have the opportunity to work closely with management staff in solving critical problems. The members will be the representatives of all other workers and should be the contacts for workers who have safety concerns.

Table 32 Environmental Management Plan for safety guidelines

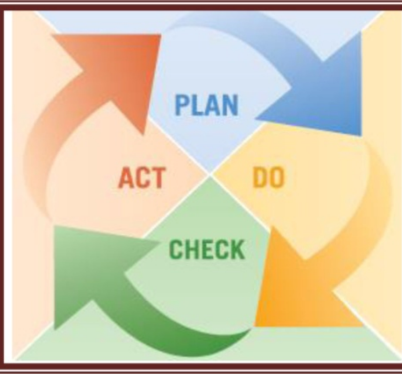
Activity Item	**Monitoring and Correcting Action/ Implementation**	**Requirements**
Safety Guidelines	Safety Guidelines	• Factories must have active safety committees. • Safety committees must meet at least once per month, and more often if needed. • Safety committees must include management representatives, workers from various factory operations, and union representatives (if the factory has a union). • A written record of the safety committee meetings must be agreed upon by the committee leaders, posted in a workplace location for factory workers to read, and kept on file for a minimum of five (5) years.
	Training, Rules, and Record Keeping	• Safety committee members should be trained to: • Investigate accidents and other health and safety events at the factory. • Conduct inspections and recognize hazards (see Risk Assessment section). Identify and evaluate health and safety trends. • Use health and safety resources within the factory or community. • A management representative and a factory worker should be chosen as leaders. The leaders should plan the agenda prior to the meeting. • The safety committee should agree on rules to run the meetings effectively.
	Hazard Assessment	• A safety committee member should be involved in all accident and event investigations. • Safety committees should review accident or event reports to make sure actions are taken to correct hazards and to avoid a similar event in the future. (Note: the privacy of the person(s) involved in the accident or event should be respected.) • Safety committees should thoroughly inspect the factory once per month and record the results. (See Risk Assessment, Aisles and Exits, and Housekeeping sections.) • Safety committees should be able to use factory health and safety data to analyze accident and event trends. This will help safety committees focus on activities to better control hazards.
	Hazard Controls	• Once they have identified hazards in a factory inspection, safety committees should prioritize actions to correct these hazards as soon as possible. Safety committees should follow up on the corrective actions until they have been completed. • Health and safety resources should be made available to safety committees, including:

		■ Website link for EU: http://europe.osha.eu.int/ info ■ Website link for U.S. OSHA: http://www. osha.gov/■
	Responsibilities	The committee will tour work areas throughout the factory with the Health and Safety Coordinator to familiarize all members with the different types of jobs workers do and their work environment. The committee will work to identify areas where workers are at risk either through direct experience, through observation (during routine inspections) or through concerns brought to their attention by other workers. They will address the various issues identifi ed and offer suggestions. The committee will conduct investigations of incidents (accidents, environmental incidents, near misses) that occur at the factory to identify root causes and appropriate corrective actions. The committee will also review safety suggestions made by other workers. It will be the committee's responsibility to prioritize the concerns and present their plans and suggestions to management. In addition, the members will do an annual review of all training programs related to safety and offer continual improvement suggestions. Being a member of this committee is a very serious role. The cooperative effort between workers and management typically results in higher morale, lower accidents and injury rates, reduced workers' compensation costs, and joint ownership of the safety improvement process. Worker involvement is integral to creating a safe working environment.

Program Strategy for Safety Committee

- Factory management drafts Safety Committee Mission Statement.
- Safety Committee approves Mission Statement, appoints Leaders.
- Leaders prepare meeting agendas.

Safety Committee changes procedures, adopts new tools, etc. to respond to management's feedback and improve its performance.



Safety Committee meets at least once a month to discuss factory safety issues. Committee provides written record of meetings to management & posts a copy that worker population can easily access. Keep records of safety committee meetings for at least fi ve years. Members are trained to inspect factory areas, conduct incident investigations, prioritize and follow-up on corrective actions. Safety Committee conducts the activities described in its Mission Statement and reports to factory management regularly.

Management reviews Safety Committee activities and performance and recommends changes, as necessary.

Figure 38: Program Strategy for Safety Committee

11.12 Environmental Management Plan for RISK ASSESSMENT

Purpose

The purpose of this section is to identify all hazards within the workplace which could reasonably be expected to cause harm and to assess the risks presented by those hazards. Hazards include, but are not limited to, those which are the subject of the other sections of the *EHS Handbook*.

Table 33 EMP -Risk Assessment

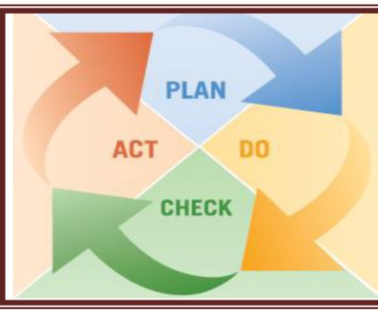
Activity Item	**Monitoring and Correcting Action/ Implementation**	**Requirements**
Risk Assessment		Factories must have a procedure for identifying workplace hazards and assessing their risks.
	Training, Rules, and Record Keeping	• Individuals or teams should be trained to identify hazards, assess their risks, and evaluate the effectiveness of control measures. • Risk assessments should be recorded in writing and made available to factory workers.
	Hazard Assessment	• Individuals responsible for risk assessment should tour the entire factory, looking for operations or work practices that could harm workers or the environment. The EHS Handbook sections should be used as a guide for the types of hazards to look for, but those touring the factory should look for hazards that may not be covered by the Handbook, as well. • Before the tour, review Material Safety Data Sheets and worker accident and injury records. During the tour, ask workers to help identify workplace hazards. Focus on hazards that could result in signifi cant harm, such as flammable materials, unguarded moving machinery parts, lack of fall protection railings (where needed), pressurized systems, chemicals without labels, chemical containers that lack secondary containment, damaged electrical wiring, fumes, extreme temperatures or noise, and high-speed ejection of material. • Determine who may be harmed by these hazards and how. Assess the risk by evaluating (a) the severity of the harm that may be caused and (b) the likelihood that an event that results in that harm will occur. For example, consider workers on an elevated platform without fall protection railings. What's the worst harm that might result? (Broken bones, even death.) How likely is it that an event resulting in broken bones or death might occur? (This is a serious risk and action should be taken immediately to install fall protection railings!)
	Hazard Control	• The risk assessors should evaluate the existing precautions for the hazards identified in the tour. Are they adequate? Can the risk be eliminated or reduced by taking additional action? • Prepare a report, summarizing the hazards identified, the assessment of risks, and any recommendations for new risk control measures. Factories must make sure this report is available for workers to read. • Make sure to do the hazard tour and risk assessment each year or whenever there have been significant changes to factory operations.

Program Strategy for Risk Assessments

Figure 39: Program Strategy for Risk Assessments

Prepare procedure for identifying hazards and assessing risks at factory.
Train Safety Committee members and anyone responsible for using this procedure.

Safety Committee makes changes to procedure to respond to feedback and improve performance.



Individuals/groups identify hazards, conduct risk assessments using the procedure. Make recommendations for corrective actions, prepare report. Conduct hazard tour and risk assessment at least every year and whenever significant changes occur.

Safety Committee and factory management periodically review effectiveness of procedure; recommend changes, as necessary.

11.13 Environmental Management Plan for EMERGENCY PREPAREDNESS

Purpose

The Supreme Garment Factory Fire Safety Plan has been developed to work with company emergency plans and other safety programs. All new building construction and renovations should be reviewed to ensure compliance with applicable state, local, and national fire and life safety standards. Fire prevention measures reduce the incidence of fires by eliminating opportunities for flammable materials to ignite. Emergency events include fi res, earthquakes and accidents. Injuries to workers and damage to buildings and equipment can be reduced if emergencies are planned for in advance. This section describes the requirements for planning and preparing to protect workers in the event of an emergency.

Table 34 EMP - Emergency Preparedness

Activity Item	**Monitoring and Correcting Action/ Implementation**	**Requirements**
EMERGENCY PREPAREDNESS	Emergency Preparedness	• A senior factory manager must be assigned responsibility for making sure that the factory has procedures in place to prepare for, and respond to, emergency situations. • Factories must have procedures to prepare for possible emergencies such as fi re, earthquakes, hurricanes, and chemical spills. These procedures must be written in a language that all workers understand. • Factories must have an emergency evacuation plan, and evacuation routes must be posted in each work area. • Factories must have assigned locations that can shelter the entire worker population in case of a severe weather event. • Factories must hold emergency evacuation drills often enough that workers know the drill procedure and consider it routine. • Factories must have a fire prevention plan.
	Training, Rules, and Record Keeping	• Workers on all shifts should be trained to use fire extinguishers. This training should include hands-on practice with fi re extinguishers, as well as reading materials and demonstrations. Factories should keep written records to show this training has been given. • Factories should assign individuals with responsibility for planning and holding emergency evacuation drills. These individuals should be qualified to lead the drills. Drills should be held at various times and under various conditions to model an actual emergency. • Workers should be trained on emergency evacuation procedures. Visitors should also be informed about evacuation plans. • Factories should keep records of emergency evacuation drills. These records should include details about the drill (e.g., the time the last person exited the building, an accounting of all workers, any issues noticed during evacuation, plans to correct such issues). Records should also be kept on the maintenance and testing of emergency equipment (such as fire extinguishers, lighting, alarms, etc.). • Factories should post "Danger," "Warning," and "No Smoking" signs where needed, and in a language that all workers understand.
	Hazard Assessment	Factories should consider all the types of emergencies that may occur at their location (e.g., fi re, chemical spill, earthquake, typhoon, etc.) and include them in emergency preparedness procedures.
	Hazard Controls	• Factories should have rules and procedures to make sure that aisles and exits are kept clear, are properly and clearly marked, and allow workers to quickly and safely leave the factory in an emergency. (See Aisles and

		Exits section.) • Factories should have emergency evacuation procedures that require all workers and managers to participate in drills. During a drill, workers and managers should leave the building, go to an assigned location (assembly area) and remain there until a signal is given to return to the factory. The focus should be on orderly evacuation, rather than on speed. Factories should hold at least one emergency evacuation drill every year during which all workers are evacuated within 3 minutes. • Emergency lights should be tested regularly and kept in proper working order. (See Lighting section.) • Fire extinguishers should match the potential fi re hazard and should be located within 15 m (50 ft) of flammable liquids and 23 m (75 ft) of every worker. • Fire extinguishers should have maintenance tags attached to them to indicate the date they were last checked and serviced. In addition, there should be a diagram that shows workers how to use fire extinguishers in the immediate area. • A reasonable number of battery-operated emergency lights should be placed in useful locations in order to light aisles, halls, and stairways along evacuation routes. Factories should have a separate fire alarm that: ■ has a sound that only means "fire" (and not any other type of emergency); ■ may be heard throughout the factory; can be activated at various points throughout the factory; and ■ has a back-up battery or an uninterruptible power supply. • Alarms should be tested regularly and maintained in proper working order. In addition to the factory's audible alarm, a visible fi re alarm (such as a flashing light) should be installed in all work areas that require workers to wear hearing protection.
		  ***Good Practice:*** *Fire extinguisher types for potential Garment hazards are provided and tagged in ZKG Garment Factory* ***GOOD Practice:*** *Fire alarm switch in in ZKG*
	Responsibilities	**Management** Make sure all fi re prevention methods are established and enforced. Make sure fi re suppression systems such as sprinklers and extinguishers are inspected at least monthly and maintained to a high degree of working order. Train all workers to use fi re extinguishers for fi res that are just beginning. Train workers on evacuation routes and procedures. **Supervisors** Closely monitor the use of flammable materials and liquids. Train assigned workers to safely store, use and handle flammable materials.

		Make sure areas where flammable materials are stored are properly maintained. **Workers** Use, store and transfer fl ammable materials following procedures provided in training. Do not mix fl ammable materials. Immediately report violations of the Fire Safety Program. **Hazards** Fire and explosion hazards can exist in almost any work area. Potential hazards include: Improper operation or maintenance of gas-fi red equipment Improper storage or use of fl ammable liquids Smoking in prohibited areas Accumulation of trash Hot Work (welding, soldering, any use of open fl ame or torch) operations without proper controls.
	Fire Extinguishers	A portable fire extinguisher is a "fi rst aid" device and is very effective when used while the fire is small. The use of a fire extinguisher that matches the class of fi re, by a person who is well trained, can save both lives and property. Portable fire extinguishers should be installed in workplaces regardless of other fire-fighting measures. The successful performance of a fi re extinguisher in a fi re situation largely depends on its proper selection, inspection, maintenance, and distribution. ***Classification of Fires and Selection of Extinguishers*** Fires are classified into four general categories depending on the type of material or fuel involved. The type of fire determines the type of extinguisher that should be used to extinguish it: Class A fires involve materials such as wood, paper, and cloth, which produce glowing embers or char. Class B fires involve flammable gases, liquids, and greases, including gasoline and most hydrocarbon liquids, which should be vaporized for combustion to occur. Class C are fi res in live electrical equipment or in materials near electrically powered equipment. Class D fi res involve combustible metals such as magnesium, zirconium, potassium, and sodium. Extinguishers should be selected according to the potential fi re hazard, the construction and occupancy of facilities, the hazard to be protected, and other factors pertinent to the situation. ***Location and Marking of Extinguishers*** Extinguishers should be conspicuously located and readily accessible for immediate use in the event of fire. They should be located along normal paths of travel and egress. Extinguishers should be clearly visible. In locations where visual obstruction cannot be completely avoided, directional arrows will be provided to indicate the location of extinguishers and the arrows will be marked with the extinguisher classification. If extinguishers intended for different classes of fire are located together, they should be conspicuously marked to ensure that the proper class extinguisher selection is made at the time of a fire. Extinguisher classification markings should be located on the front of the shell above or below the extinguisher nameplate. Markings should be of a size and form to be legible from a distance of 1 meter (about 3 feet). ***Condition*** Portable extinguishers should be maintained in a fully charged and operable condition. They should be kept in their assigned locations at all times when not being used. When extinguishers are removed for maintenance or testing, a fully charged and operable replacement unit should be provided. ***Mounting and Distribution of Extinguishers*** Extinguishers should be installed on hangers, brackets, in cabinets, or on shelves. Extinguishers mounted in cabinets or wall recesses or set on shelves should be placed so that the extinguisher operating instructions face outward. The location of such extinguishers will be made clear by marking the cabinet or wall recess in a contrasting color which will distinguish it from the normal decor. Extinguishers should be distributed in such a way that the amount of time needed to travel to their location and

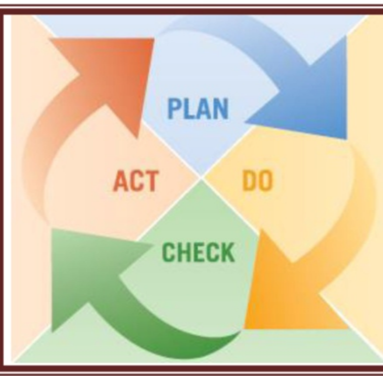
		back to the fi re does not allow the fi re to get out of control. The travel distance for Class A and Class D extinguishers should not exceed 23 meters (75 feet). The maximum travel distance for Class B extinguishers is 15 meters (50 feet) because flammable liquid fires can get out of control faster that Class A fires. There is no maximum travel distance specified for Class C extinguishers, but they should be distributed on the basis of appropriate patterns for Class A and B hazards. ***Inspection and Maintenance*** Once an extinguisher is selected, purchased, and installed, it is the responsibility of [names/titles of individuals assigned this responsibility] to oversee the inspection, maintenance, and testing of fire extinguishers to ensure that they are in proper working condition and have not been tampered with or physically damaged. ***Fire Safety Inspections & Housekeeping*** [Titles of individuals assigned this responsibility] are responsible for observing worksite safety and housekeeping issues and should specifically address proper storage of chemicals and supplies, unobstructed access to fi re extinguishers, and emergency evacuation routes. Also, they should determine if an emergency evacuation plan is present in work areas and if personnel are familiar with the plan. [Titles of individuals assigned this responsibility] will be responsible for ensuring a monthly fire safety inspection of the facility is conducted. This includes valve inspections, flow tests of the risers, audible and visual alarm activation, inspection of sprinkler heads, emergency lighting, general order and housekeeping. It also includes checking that combustible materials are removed daily, that flammable liquids are stored safely, that spill kits are intact at specific locations and that electrical equipment is in good repair.

Program Strategy for Emergency Preparedness

Figure 40: Program Strategy for Emergency Preparedness

Identify the potential emergencies that may occur at the factory location. Create an emergency preparedness plan that includes procedures for:
■ safely evacuating the factory in an emergency,
■ sheltering in place (if necessary),
■ conducting drills,
■ maintaining emergency routes, exits, and equipment in good order,
and ■ training workers.

Create or modify procedures to improve the factory's emergency preparedness, based on drills and/or incidents.



Assign a senior factory manager with responsibility for emergency preparedness. Make sure all workers are trained to safely use fi re extinguishers. Make sure all workers are trained on emergency evacuation procedures. Inform visitors of emergency procedures.
Make sure factory has proper warning signs, fi re extinguishers, emergency alarms and emergency lighting. Maintain emergency equipment in good working order.

Regularly conduct drills of the emergency evacuation procedures. Test emergency lights on a regular basis.

11.14 Environmental Management Plan for AISLES AND EXITS

Purpose

The purpose of this section is to make sure that factory aisles and exits are kept clear, are well marked, and allow workers to quickly and safely exit the factory in an emergency.

Table 35 EMP - Aisles and Exits

Activity Item	**Monitoring and Correcting Action/ Implementation**	**Requirements**
AISLES AND EXITS	Aisles and Exits	1. Factories must have enough exits to safely serve the number of workers and the height and type of building or structure: Factory floors with 150 or fewer workers must have at least 2 (non-elevator) exits. Factory fl oors with more than 150 workers must have at least 3 (non-elevator) exits. Exits must lead to a safe location outside the building and must be within 61 meters (200 feet) of every workstation. Buildings with 1000 or more workers must have at least 4 exits. Additional exits must be provided in every section of a building where size, worker population, and work area arrangement would endanger workers trying to use a single exit that is blocked by fire or smoke. 2. Aisles and exits must be kept clear and unblocked at all times. Exits must be unlocked at all times during working hours. 3. Exit doors must open outward (in the direction of the way out of the building). They must require no special operation. 4. Exit doors, routes, and aisles must be wide enough to safely evacuate workers in an emergency: Exit doors must be at least 81 cm (32 in) wide. New exits must be at least 91 cm (36 in) wide. Exit routes must be at least 91 cm (36 in) wide. Aisles must be at least 91 cm (36 in) wide. 5. Factories must have a fire alarm system that will notify occupants throughout the entire building. This alarm must be different from other building alarms, must be used for fire and evacuation only, and must be capable of being heard throughout the entire building. It must take priority over all other alarms, and be monitored at an outside location that is constantly attended, such as the local fire and/ or police department or alarm company. 6. Exit doors and exit routes must be marked so that they are clearly visible to factory workers throughout the factory: Exits must be marked with signs that are visible from 30 m (100 ft). All signs and markings must be in a language(s) that can be understood by all workers. Lettering must be at least 15 cm (6 in) high, brightly colored, contrasting with surrounding surfaces, illuminated to make them more visible. Any door, aisle, or stairway that is NOT an exit or does NOT lead to an exit and may be mistaken for an exit shall be posted with a sign that reads "NO EXIT." 7. An assembly area must be assigned outside the factory so that evacuated workers can be accounted for in an emergency. 8. Any changes to building design must be reviewed to make sure that they meet the requirements of this topic before they are implemented.

	Coordinators	assigned areas. Fire Emergency Procedures **If you discover a fire:** 1. Activate the nearest fi re alarm. 2. Notify your Supervisor and other occupants. *Fight the fire ONLY if:* 1. The fire department has been notified of the fire, AND 2. The fire is small and confined to its area of origin, AND 3. You have a way out and can fight the fire with your back to the exit, AND 4. You have the proper extinguisher, in good working order, AND have been trained and know how to use it. 5. If you are not sure of your ability or the fire extinguisher's capacity to contain the fi re, leave the area. **If you hear a fire alarm:** 1. Evacuate the area, and close doors as you leave. 2. Leave the building and move away from exits and out of the way of emergency operations. 3. Assemble in an assigned area, outside the building. 4. Supervisors and Coordinators should account for all workers in their area to determine that all personnel have evacuated. 5. All workers should remain outside until given the signal or announcement that it is safe to re-enter. *Evacuation Routes:* 1. Learn at least two escape routes and emergency exits from your area. 2. Learn to activate a fire alarm. 3. Learn to recognize alarm sounds. 4. Take an active part in fire evacuation drills.
	Evacuation	**Fire** When the alarm sounds, all personnel not assigned to emergency duties will immediately proceed to the nearest SAFE exit. Leave the building, and move directly to the nearest assembly area. Do not stop to pick up personal items. All personnel should refrain from smoking during the evacuation. All personnel should be at least sixty meters (60 m) or two hundred feet (200 ft) away from the building. Be familiar with exit routes, assembly areas, and evacuation maps. Report to assembly area coordinator if evacuating from other than your normally assigned location, also report to assembly area coordinator if co-worker is missing. Treat all alarms as if there is an emergency situation. Factory will evacuate for all alarms. **Power Failure** In the event of a power failure, remain in your work area. Wait for instruction from your coordinator, Supervisor, or shift leader. STOP and park all moving equipment immediately for the duration of the power failure (this includes golf/utility carts and bicycles).

Program Strategy for Aisles and Exits Safety

Figure 41: Program Strategy for Aisles and Exits Safety

Determine number of workers and height and type of factory building or structure. Establish a plan to meet requirements for proper number and location of exits. Establish procedures and identify responsible persons to make sure factory meets all TOE requirements for aisles and exits.

Make changes to procedures if TOE requirements (e.g., keeping aisles clear) are not met. Maintain fi re alarm system and/or improve evacuation procedures, as necessary.



Add exits, if necessary. Modify aisles and exit doors, if necessary to meet TOE requirements.
Ensure that factory fi re alarm system meets TOE requirements.
Mark evacuation routes on factory floors and assign an assembly area outside the factory where workers meet after exiting the building.
Review any changes to building design to make sure they meet the Aisles and Exits TOE Requirements.
•

nspect building areas each month to make sure they meet requirements.
Periodically test fi re alarm system and evacuation procedures to verify they are in working order.

11.15 Environmental Management Plan for LIGHTING

Purpose

Poor lighting, or a complete lack of lighting (in the event of a power failure), may prevent workers from seeing possible hazards. The purpose of this section is to describe requirements for workplace and emergency lighting to help provide a safe working environment for all factory workers.

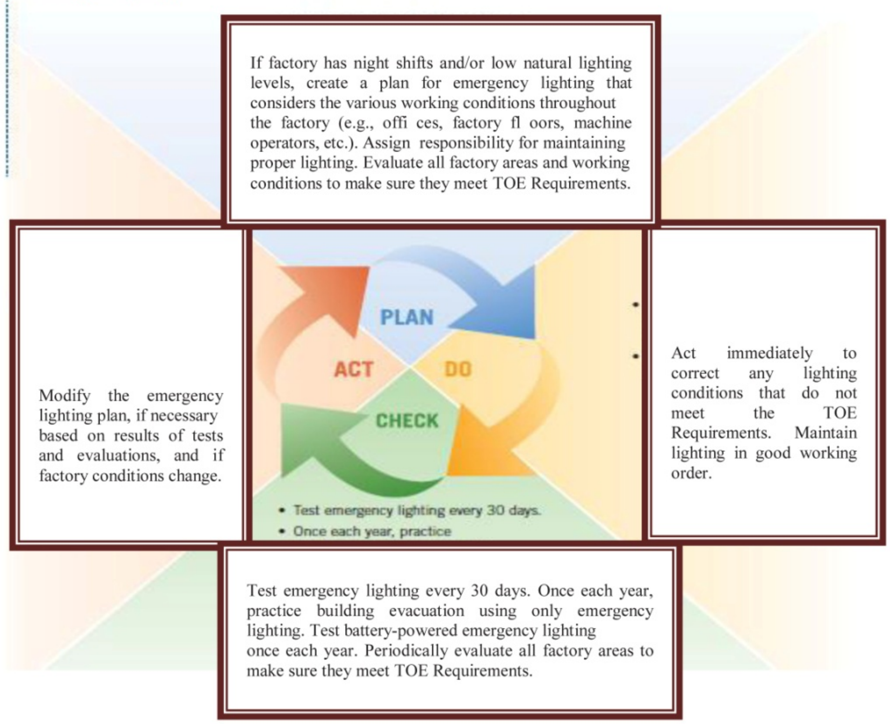
Table 36 EMP - Lighting

Activity Item	**Monitoring and Correcting Action/ Implementation**	**Requirements**
		1. Factories that have night shifts or low natural lighting levels must provide emergency lighting in case of a power failure. 2. Lighting must meet the following required lux levels in the workplace:
	Working Condition Minimum	**Lighting Value (lux)**
	Rarely visited locations, with limited perception of detail required (e.g., storage rooms)	50
LIGHTING	Factory floor and other continuously occupied areas (e.g. walkways) where fi ne detail perception is not required	200
	General Office	500
Emergency Lighting:	Machine operator work stations, drawing board workstations, bench work, and other work stations that require fi ne detail perception. **Hazard Assessment**	750 Factories with night shifts should make sure that emergency lighting meets the following requirements: ■ Average required lighting should be 10 lux (1 ft-candle) at floor level. ■ Emergency lighting should be supplied for at least 1.5 hours if normal lighting fails, and lighting should be no less than 10 lux (1 ft candle) at the end of that time. ■ If maintaining light requires a change from one energy source (e.g., a public utility) to another (e.g. a private energy generator), any delay in providing lighting may be no more than 10 seconds. Factories without night shifts should evaluate natural lighting of the exit routes and determine whether it is at least 0.1 ft candle (1 lux) at floor level. If it is not, the factory should act to install emergency lighting (that meets the above requirements) in the building. • Factories should evaluate all areas and working conditions to make sure they meet the minimum lighting values described in the TOE Requirements section above.
	Hazard Controls	• Factories should test the emergency lighting system every 30 days for no less than 30 seconds. • Once each year, factories with night shifts should practice emergency evacuation of the building using only emergency lighting. • If battery-powered emergency lighting systems are used, they should be tested each year for no less than 1.5 hours. Factories should keep written records of these tests. • Where areas or working conditions fail to meet the minimum lighting values, factories should act immediately to correct the situation.

		• Factories should assign responsibility for maintaining proper lighting (cleaning, replacing, repairing lighting fixtures, etc.).

Program Strategy for Lighting

Figure 42: Program Strategy for Lighting



11.16 Environmental Management Plan for HOUSE KEEPING

Purpose

Good housekeeping is an important factor in preventing injuries, illnesses, and property damage that may result from hazards such as trips, slips and falls, falling objects, fi res, and pest infestation. Examples of accidents caused by poor housekeeping include:

• tripping over loose objects on floors, stairs and platforms
• being hit by falling objects
• slipping on greasy, wet or dirty surfaces
• striking against poorly stacked items or misplaced material projecting into aisles
• cutting, puncturing, or tearing the skin of hands or other parts of the body on projecting nails, wire or steel strapping

The purpose of this section is to promote good housekeeping to protect workers and factory property.

Table 37 EMP - House Keeping

Activity Item	**Monitoring and Correcting Action/ Implementation**	**Requirements**
HOUSEKEEPING		1. Flammable and combustible chemicals and materials must be properly stored. Drips and spills must be cleaned up immediately. 2. Lint traps in dryers must be routinely cleaned and the lint removed and discarded. 3. Factories must keep stairs, aisles and exits clear. (See Aisles and Exits for further requirements.) Materials must be kept neat and orderly. 4. Scrap materials must be cleaned up daily or often enough to prevent them from collecting on fl oors, tabletops, in aisleways, or other areas. 5. Litter must be stored in non-combustible containers with lids. 6. Building roofs and roof drains must be kept clean and unclogged. 7. Outside storage must be at least 7.5 meters (25 feet) away from building walls. 8. Heating, ventilation and air conditioning systems must be cleaned and maintained regularly.
	Training, Rules, and Record Keeping	Workers should be trained on how to properly store tools and equipment, and where and how to dispose of waste.
	Hazard Assessment	Factories should create and use a housekeeping inspection checklist to make sure TOE housekeeping requirements are being met. Individuals should be assigned responsibility for doing housekeeping inspections on a regular basis.
	Hazard Controls	Factories should take action to correct conditions or situations that do not meet the housekeeping requirements. This may include improving cleaning procedures, doing building and equipment maintenance work, and changing work area design to create proper storage areas for tools, equipment, and materials. Tools and equipment should be provided to clean up waste (brooms, dust pans, vacuums, etc.). Factories should assign responsibilities for the following:■ clean up during the shift,■ day-to-day cleanup,■ waste disposal■ removal of unused materials

Program Strategy for Housekeeping

Figure 43: Program Strategy for Housekeeping

Create a housekeeping inspection checklist to make sure TOE Requirements are being met. Establish procedures for cleaning up wastes. Assign responsibilities for clean-up tasks and for housekeeping inspections.
Make sure factory has proper tools and equipment for cleaning up waste.

Improve cleaning procedures, building and equipment maintenance procedures, and/or change work area design to improve housekeeping if inspections show it is necessary.



Properly clean and maintain work areas, buildings (including roofs) and equipment.
Properly store waste materials.
Clean up spills immediately.
•

Inspect factory areas on a regular basis to make sure they meet the TOE Requirements for housekeeping.

11.17 Environmental Management Plan for ELECTRICAL SAFETY

Purpose

Accidental contact with electric current may result in electric shocks, contact burns and even death, if proper protective measures are not taken.

Wiring and electrical systems such as sockets, panels, motors, fuse boxes, and transformers that are not well maintained can overheat and become a fire hazard. The purpose of this section is to help reduce threats to workers, equipment, and buildings from electrical shock or electrical fires.

Table 38 EMP- Electrical Safety

Activity Item	**Monitoring and Correcting Action/ Implementation**	**Requirements**
ELECTRICAL SAFETY		• Factories must maintain wiring and electrical systems in safe condition. • All workers who work with high-tension, live electricity must be trained on its hazards and the control measures that must be taken. Written records must be kept of this training. • All electrical equipment must be properly grounded. • Permanent and stationary equipment must have hard-wired electrical connections only.
	Training, Rules, and Record Keeping	• Provide maintenance workers with electrical safety training when they are fi rst hired, and make sure they are retrained each year after that. • Only those workers that have been trained and authorized may work with electrical systems. • Factories should keep written records to show this training has been completed.
	Hazard Assessment	• Perform regular inspections of equipment and electrical installations to make sure they are in good working condition and do not present electric shock or fire hazards. • Identify each piece of equipment or machinery that presents electrical or mechanical hazards to maintenance workers. Contact the equipment manufacturer to obtain appropriate electrical safety information, if necessary. Prepare a written procedure for de-energizing and locking and tagging each machine out before performing any maintenance on it.
	Hazard Control	• Grounding is an electrical connection to earth. A ground wire carries electrical current to earth when there is a leak in a circuit. Use building ground for all 120V AC outlets, motor grounds, etc. Never use the neutral circuit wire as the electrical ground. • A Ground Fault Circuit Interrupter is an electrical breaker that protects against an accidental short or overload of an electrical circuit. This device trips, cutting off electrical current at the slightest indication of an electrical short. Ground Fault Circuit Interrupters should be used in areas where there is moisture or humidity is high (for example, outlets close to water hose line, water faucets, etc.). • Regularly test and maintain electrical panels, tighten electrical connections, and test electrical motors at "full load" (maximum electrical current or amperage) to identify loose connections that may create a fire hazard. • Use adequate wire size and connectors, according to current load, for temporary electrical connections. Undersized wire or loose connectors are the most common causes for wire overheating that may lead to fire hazards. • Temporary installations should be kept only for a length of time specified by the work. Label and identify electrical panels as to the type of voltage (480V / 220V; 240V / 120V, etc.). Label each circuit breaker. • Electrical panels should always be closed and locked. Keys for electrical panels should be kept in a

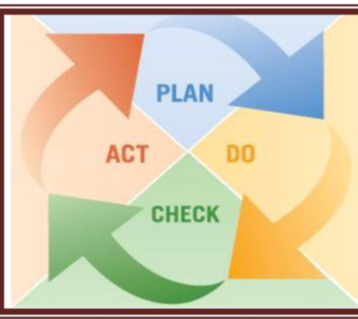
		centralized area and made available only to authorized personnel. • Make sure there is easy access (approximately 1 meter or 3 feet) to electrical panels and transformers. Do not allow electrical panels or transformers to be blocked by equipment or stored materials, and keep flammable or combustible materials away. • To reduce the risk of electrical shock, cap or otherwise close any openings left in electrical enclosures (electrical panels, boxes, etc.) from removed electric piping, circuit breakers, etc. • Before using portable cord and plug-connected equipment and extension cords on any shift, inspect them for defects such as loose parts, deformed and missing pins, or damage to the outer jacket or insulation. Do not allow the use of damaged or defective equipment or cords. Such items should be repaired (if possible) or discarded. • Avoid hanging electric extension cords from the ceiling, if possible. If these are to be used, make sure to have a strain-relief mesh or similar device to prevent strain on the outlet or damage to the extension cord.

Program Strategy for Electrical Safety

Figure 44: Program Strategy for Electrical Safety

Create an electrical safety plan that identifi es wiring and equipment that must be maintained in good working order and identifi es workers who may be exposed to electrical hazards. The plan should also identify equipment that may pose an electrical or mechanical hazard to maintenance workers. Identify building areas where Ground Fault Circuit Interrupters should be used.

Modify the electrical safety plan or any of its procedures as necessary, based on regular inspections of equipment and electrical installations and periodic reviews of the plan.



Maintenance workers must be trained on electrical safety hazards and safe workprocedures when hired and each year after that. Those workers who work with hightension, live electricity must be trained on its hazards and on safe work procedures. Make certain electrical equipment is properly grounded, and that permanent and stationary equipment has only hardwired electrical connections. Make sure each piece of equipment that needs one has a lockout/tagout procedure.

Perform regular inspections of equipment and electrical installations to make sure they are in good working condition and do not present electric shock or fi re hazards. Periodically review the electrical safety plan to determine if it is working effectively.

11.18 Environmental Management Plan for NOISE MANAGEMENT

Purpose

Permanent hearing loss may be caused by a number of things, including disease, aging, sudden loud noise or long-term exposure to loud noise. The purpose of this section is to describe requirements to manage workplace noise levels to help prevent workers from experiencing work-related hearing loss.

Table 39 EMP- Noise Management

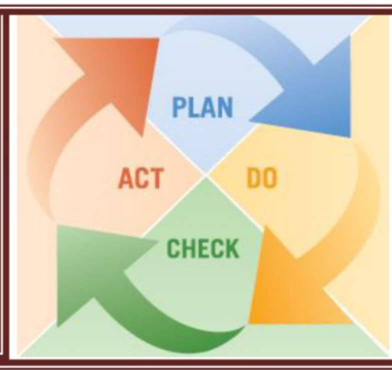
Activity Item	**Monitoring and Correcting Action/ Implementation**	**Requirements**
NOISE MANAGEMENT		• Factories must identify workers who work in areas with noise levels that are higher than 85 decibels. These workers must wear hearing protection and be trained on the proper use of hearing protection and the health and safety risks of not wearing hearing protection. • Factories must supply workers with the necessary hearing protection (ear plugs, ear muffs). Factories must keep written records that show this training has been completed. • Factories must meet legal requirements to test workers' hearing to determine whether they have experienced any hearing loss. • Factories must conduct noise hazard evaluations each year to identify any areas where noise levels exceed 85 decibels. • Factories must fi rst attempt to reduce noise levels that are higher than 85 decibels through proper maintenance of equipment and engineered noise controls.
	Training, Rules & Record Keeping	• Workers in areas where noise levels are higher than 85 decibels should have an audiometric test to determine if hearing loss has occurred. This test should be conducted at 2000, 3000, and 4000 Hz frequency range for both ears. • Warning signs should be posted in areas where noise levels exceed 85 decibels, telling workers (and visitors) that the area is a "Mandatory Hearing Protection" area. • Factories should keep records of noise monitoring results.
	Hazard Assessment	• Noise levels within buildings should be monitored each year to determine which areas (if any) exceed 85 decibels. • Noise output on new equipment should be evaluated and engineered controls used to reduce noise.
	Hazard Control	• Where noise levels are higher than 85 decibels, factories should provide workers with hearing protection, such as earplugs or ear muffs with a noise reduction ratio of 20. Workers should be trained and required to wear the hearing protection. • Where noise levels are higher than 85 decibels, factories should use engineered controls to reduce noise levels, including: ■ Rubber padding to reduce machine vibration ■ Sound barriers ■ Sound insulation • Noise levels should not exceed a 140-decibel peak sound pressure level at any time. ■ Noise curtains,■ Sound-absorbing materials,■ Enclosures

Program Strategy for Noise Management

Figure 45: Program Strategy for Noise Management

Evaluate noise levels throughout the factory to identify any areas where noise levels exceed 85 decibels. Identify workers who work in areas with noise levels higher than 85 decibels. Create procedures for training these workers and rules requiring them to wear hearing protection. Develop a plan to meet any legal requirements to test workers' hearing.

Re-train and/or discipline workers who don't wear required hearing protection. Modify procedures, or establish new requirements for engineered noise controls, if reviews (of noise monitoring results, hearing test results) indicate this is necessary.



Post warning signs in areas with noise levels greater than 85 decibels. Provide workers in these areas with hearing protection (ear muffs, ear plugs) that has a noise reduction ratio of 20. Train these workers on noise hazards and on how to use hearing protection. Require them to wear hearing protection. Make sure they receive hearing tests, if required. Use engineered controls and proper equipment maintenance to reduce noise levels in areas where noise levels are greater than 85 decibels and on new equipment.

Monitor noise levels within the factory each year. Periodically check to make sure workers are wearing required hearing protection. Review results of any hearing tests to determine whether workers are experiencing hearing loss.

11.19 Environmental Management Plan for PERSONAL PROTECTIVE EQUIPMENT

Purpose

Personal protective equipment (e.g., safety glasses, ear plugs, safety shoes) is worn by workers to prevent or minimize exposure to workplace
hazards. Personal protective equipment must only be considered as a hazard control measure after all practical engineering controls (e.g., enclosing equipment to make it quieter, installing ventilation equipment to remove air contaminants, etc.) and administrative controls (e.g., limiting the amount of time workers may do a task) have been used and there still remains a need for additional protection. The purpose of this section is to describe the requirements for proper use of personal protective equipment.

Table 40 EMP- Personal Protective Equipment

Activity Item	**Monitoring and Correcting Action/ Implementation**	**Requirements**
PERSONAL PROTECTIVE EQUIPMENT		• Factories must try to lower noise levels by properly maintaining equipment, installing rubber padding, etc. In areas where noise levels remain higher than 85 decibels, factories must supply workers with hearing protection (such as earplugs or ear muffs) that has a noise reduction ratio of 20. Workers must be trained to properly use the hearing protection and must be required to wear it. In addition, factories must designate these areas as "Mandatory Hearing Protection" areas by posting signs. • Factories must supply cutting room workers with metal mesh gloves, train workers to use them properly, and require that they be worn. • Workers must wear shoes or boots that will protect against foot injury. • Factories must provide workers with protective eyewear to guard against flying objects, glare (e.g. from laser usage), liquids, dust, etc. Prescription lenses typically do not provide enough protection. Eyewear must meet the applicable standard for impact resistance (see, for example, ANSI Z87.1 -1989) and must not disturb the proper positioning of prescription lenses. • Sewing factories must provide finger guards for sewing workers to protect against needle punctures. • Factories must supply workers who do potentially hazardous work (e.g., drilling, sanding, grinding, construction, loading or materials handling) with suitable personal protective equipment. Factories must train these workers to use protective equipment properly, and require that it be worn. • 7. Factories must inform workers about the health and safety risks of not wearing required personal protective equipment.
	Typical Personal Protective Equipment:	• Eye protection–such as safety glasses or goggles to guard against flying objects and dust. • Face shields to protect against chemical or hot metal splashes, flying chips and sparks, heat and other hazards. These are often made of a heavy duty plastic that is attached to a visor that must shield the entire face (and often shield the head and neck, as well). • Hearing protection — such as ear muffs and ear plugs for noise levels that exceed 85 decibels. • (See Noise Management section.) • Head protection — such as hard hats and bump/ laceration caps. These protect against impactfrom falling, moving, flying objects and from knocking into objects. They also serve to protect workers from rain or other weather elements. • Hand/Arm protection — such as finger guards, thimbles, gloves, and sleeves. Fingers, hands, and arms

		must be protected from exposure to cuts, scratches, bruises, burns, and chemicals. The right personal protective equipment must be used for the specific hazard.
	Training, Rules & Record Keeping	Factories should choose suitable protective equipment for the hazards identified in the assessment (see "Hazard Assessment" below), provide workers with it, and require them to use it. Factories should train workers who are required to wear personal protective equipment on the following: ■ when the equipment is necessary, ■ what equipment is necessary (and required), ■ how to use and adjust the equipment, ■ limitations of the equipment, and ■ proper care and maintenance of the equipment. Factories should regularly review how well the personal protective equipment program is working and take action to improve it, if necessary.
	Hazard Control – Sewing Factories	Operators should make sure that needle guards, eye shields, and machine guards are in place. Pressing and ironing operators should wear gloves, sleeves, and face shields (when appropriate) to protect against burns. Shoes with hard, non-slip soles should be worn to avoid puncture wounds from needles, pins, etc. While cutting fabric, workers should wear metal mesh gloves.
	Hazard Assessment	Factories should review and assess the workplace to identify hazards that require the use of personal protective equipment.
	Hazard Control – Laundry Facilities	Laundry facilities should make sure that operators of laser-etching machines are provided with and required to wear laser safety glasses. Workers using chemicals and dyes should wear eye/face protection, gloves, and protective clothing such as aprons to protect them from chemical splashes. Laundry facilities should make sure there is adequate ventilation to protect workers from breathing toxic dusts or vapors. Respirators should be used only when an area cannot be ventilated properly.
	Hazard Control– Machine/Maintenance Shop	Workers should wear eye/face protection when drilling, sanding, grinding, welding, etc. to avoid contact with flying sparks, chips, and other objects. Mechanics should wear safety shoes to protect their feet from falling tools or heavy parts. When using (or cleaning up) any chemical, workers should follow recommendations for personal protective equipment that are outlined on the Material Safety Data Sheet.
	Hazard Control– Shipping & Receiving	In areas where feet can be crushed by forklifts, carts, or dropped materials, workers should wear safety shoes. Leather or puncture-resistant gloves should be worn when handling pallets

Program Strategy for Personal Protective Equipment

Figure 46: Program Strategy for Personal Protective Equipment

Review and assess the workplace to identify hazards that require the use of personal protective equipment. (See the Risk Assessment section.)
Create procedures to comply with TOE Requirements for supplying workers with personal protective equipment, training them on it, and requiring them to use it.

Modify procedures, as necessary, to improve the program's effectiveness.
Re-train and/or discipline workers who do not use the required personal protective equipment.



Assign individuals with responsibility for creating and implementing procedures. Inform all workers, contractors, vendors, and visitors of the factory's requirements for personal protective equipment.

Regularly check to verify that workers are using required personal protective equipment. Periodically evaluate the program to verify that personal protective equipment is effective in protecting workers from health and safety hazards.

11.20 Environmental Management Plan for VENTILATION

Purpose

The purpose of this section is to make sure that ventilation is used properly to remove air contaminants from the workplace to protect workers' health.

Table 41 EMP - Ventilation

Activity Item	**Monitoring and Correcting Action/ Implementation**	**Requirements**
		Chemical mixing must take place in a well-ventilated or open area, using appropriate personal protective equipment. Factories must use ventilation that directs air fl ow away from workers for tasks such as welding, or handling or mixing chemicals.
	Hazard Assessment	Factories should periodically evaluate the ventilation system to check that it is working effectively.
	Hazard Control	Factories should never discharge contaminated air fl ow close to (or at the same level as) a heating, ventilation, or air conditioning vent or an open area where exhausted fumes might be drawn back into the building through a make-up air unit, by fans, etc. In areas where friable asbestos-containing material is present, factories should never use forced ventilation or any ventilation that disrupts the asbestos-containing material. Factories should make sure that welding areas have a local exhaust ventilation system or forced ventilation to direct the air fl ow away from workers. Factory ventilation systems should use mechanical or electronic air fi lters to remove particles, and activated charcoal filters to remove gases and vapors.

11.21 Environmental Management Plan for CHEMICAL STORAGE

Purpose

Certain chemicals must not be mixed or stored with other chemicals because they could react, creating a volatile or toxic reaction product. (For example, contact between a concentrated oxidizing acid and a flammable solvent would likely result in a fi re or explosion.) Proper storage of chemicals can help minimize the risk of accidentally mixing incompatible chemicals. The purpose of this section is to describe the requirements for proper storage of chemicals to help protect worker health and safety, as well as factory equipment and building structures.

Table 42 EMP - Chemical Storage

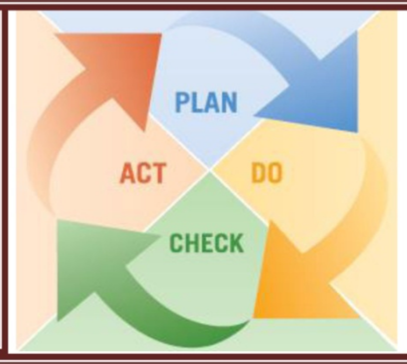
Activity Item	**Monitoring and Correcting Action/ Implementation**	**Requirements**
		• Chemicals must be stored in an organized way, following guidelines for recommended storage compatibilities to avoid contact between incompatible chemicals. • Workers handling chemicals must have immediate access (within 10 seconds) to an eyewash/shower that can be easily operated. • Factories must meet legal requirements to notify government or other local agencies (such as fi re departments) about chemicals used or stored on site. • All chemicals must be properly labeled in the language(s) spoken by workers. • Chemicals must be stored and used in designated areas which are well ventilated. • Material Safety Data Sheets must be kept on site and must be available for review by workers.
	Training, Rules, and Record Keeping	• Workers whose activities involve storing, handling, or using chemicals should be trained on the physical and health hazards of the chemicals they work with. The training should include methods for workers to protect themselves from hazards, including proper storage of chemicals, safe work practices, emergency procedures, and personal protective equipment. Factories should keep written records that show this training has been completed. • Material Safety Data Sheets (MSDSs) for each chemical used at the factory should be kept on site and located so that workers have easy access to them.
	Hazard Assessment	Factories should routinely inspect areas where chemicals are stored and used to make sure they meet the requirements.
	Hazard Controls	• Liquid propane gas tanks/cylinders, acetylene tanks, and chemical storage areas should be safely located away from sources of heat and flammable materials. In addition, they should be stored at a reasonable (safe) distance from workers. • Chemicals stored in amounts larger than 200 liters (~100 kg) should have secondary containment. (Secondary containment is a container or other structure outside the primary container that is used to keep chemicals from leaking onto building or equipment surfaces.) • The secondary containment should be able to hold 110% of the stored chemical volumes. • Workers who handle or use chemicals should be given the proper face and body protective equipment (such as respirators, safety glasses, gloves, or clothing) and should be trained as specified in the MSDS. Workers should be required to wear personal protective equipment if indicated by the MSDS. Signs should be posted in the appropriate locations if use of personal protective equipment is required. • Caps and lids on all chemical containers should be kept tightly closed to prevent evaporation of contents. • Flammable storage cabinets should be used to store flammable liquids.

Program Strategy for Chemical Storage

Figure 47: Program Strategy for Chemical Storage

Establish procedures for complying with legal requirements to notify local agencies about chemicals used or stored on site. Establish procedures to ensure chemicals are properly and safely labeled, contained, and stored. Train workers on these procedures and on the hazards of the chemicals in their work areas. Establish a procedure to make sure that MSDSs for all chemicals stored and used at the factory are kept on site and available to workers.

Create or modify procedures, if necessary to improve chemical storage, based on regular inspections.



Assign individuals with responsibility for creating and implementing the procedures. Follow chemical storage compatibility guidelines to avoid contact between incompatible chemicals.
Make sure workers have immediate access to eyewash/shower stations. Train workers about the hazards of the chemicals they work with and on proper storage and use practices. Make sure chemicals are properly labeled, and that those stored in large quantities have secondary containment.
Make sure chemical storage areas are well ventilated and equipped with explosion-proof lights and switches.

Regularly inspect chemical storage areas to verify chemicals are labeled, properly contained, kept closed, and that containers are not leaking. Make sure incompatible chemicals are not stored together. Ensure that chemical storage meets the TOE requirements.

Table 43 Environmental Monitoring during Design, Construction & Operation

11.22 Environmental Monitoring and Mitigation Measures during Design, Construction and Operation

Activity	Potential Impact	Mitigation measures	Persons to Implement	Persons to Monitor	Timing
Design Stage					
Non Motorized Traffic	Exposed to high speed motorized traffic	Consideration is made in the preliminary engineering design to strengthen shoulder for the non-motorized transport and the pedestrians. Where space permits, either as a part of the roadway features (sub-standard pavement) or a separate surface a meter or two width from the edge of the roadbed is considered, especially in the region where road is passing through the village, schools, and markets.	Design Consultants	Factory Manager	Feasibility and Design Phase
Increased traffic	Increased pedestrian vs. vehicle accidents due to traffic volume and higher speed	A rehabilitated road will attract more traffic after its completion, due to the long-suppressed traffic coming back onto the road. To help reduce the risk of serious accidents, speed control signs and other visual means be used at the entrance and through the urban zones of towns and villages along the road. Many of the activities of the villages are centered on the road and thus there is a large pedestrian back and forth across the road. Proper speed control will help improving both safety and noise reductions, particularly in the evening.	Design Consultants	Factory Manager	Feasibility and Design Phase
Compensation for temporary and mobile stores and plants	Social instability	DGRI has prepared a compensation policy guideline by defining the compensation and resettlement framework outlining who is entitled to the compensation, what will be the compensation mechanisms, how much the compensation will be paid according to the type of damages (e.g., a fruit growing tree will be compensated three harvest equivalent). In the approaches to towns and villages and the road through them, mobile vendors who sell items on the ground or from makeshift stands at the edge of the pavement, will be encouraged to conduct their business at new strengthened shoulders.	Resettleme nt Expert	Factory Manager	Feasibility stage and Design Phase
Strengthening and operation of existing Factory	Social and community disturbances by flooding	Damaged culverts and small bridges will be reconstructed with proper engineering design to allow smooth water flow of the natural creeks and canals.	Design consultants	Factory Manager	Design Phase, Construction Phase

Table 39 Continued

Activity	Potential Impact	Mitigation measures	Persons to Implement	Persons to Monitor	Timing
Noise		- preparation sites will be strictly enforced to prevent exceedances of acceptable noise standards 55 dBA for residential and human settlement area if it is very close to the residential area and 70dBA for industrial area if it is far from the human settlement. Maintenance of machinery and vehicles should be enhanced to minimize noise. -When construction is taking place at < 100 m from the villages along both sides, and the road passes within 150m of sensitive areas such as hospitals, construction should be stopped from 20:00 to 06:00. This will reduce nighttime noise levels, which in most towns are non-existent.	Contractor	Consultant with assistance from Bapedalda if required	Construction Phase
	Protected Areas in TSCC	It must be ensured that noise level in all protected area sections of the roads is kept 55 dBA during construction.			
Water					
Alteration of drainage	Flooding	-In sections along creeks and canals, earth and stones will be properly disposed of so that they do not block rivers and streams, resulting in adverse impact on water quality and flow regime. -All necessary measures will be taken to prevent earthworks and stone works related to the road from impeding cross drainage at rivers / streams and canals or existing irrigation and drainage systems. 'Side-borrow' sites will be used as drainage ditches and designed such that they drain into the nearest watercourse. But at a slope (e.g., <5%) permitting fine suspended materials to settle down.	Contractor	PMT and DFT	Construction Phase
Stagnant water as insect-borne disease vectors	Malaria, dengue fever and schistosomiasis	The formation of standing waters on construction sites in tropical areas often leads to the spread of insect-borne diseases such as malaria, dengue fever and schistosomiasis. Therefore there must be a vigorous program by the contractor to avoid such standing waters, including the removal of old materials such as used tires and storage drums. In cases, where standing waters are managed by their owners (users), e.g., through fish or waterfowl stocking, they will be held responsible for insect control. The owners / users should be	Contractor	Contractor EHSM and Consultant	Construction Phase

Table 39 Continued

Activity	Potential Impact	Mitigation measures	Persons to Implement	Persons to Monitor	Timing
		given information about the dangers of waterborne diseases in standing water and how to prevent them.			
Siltation	Sedimentation in watercourse	Construction materials containing fine particles, e.g., limestone or laterite should be stored in an enclosure such that sediment-laden water does not drain into nearby watercourses, but rather percolates slowly into the soil. See measure for soil erosion.	Contractor	PMT and DFT	Construction Phase
Contamination of water table or surface drainage		In road rehabilitation the most severe possible water quality impact could come from spilled bitumen or any petroleum products used to thin the bitumen. Bitumen is stored in drums which may leak or which are often punctured during handling after long periods (> 6 months in the elements) of storage. Bitumen will not be allowed to enter either running or dry streambeds and nor can be disposed of in ditches or small waste disposal sites prepared by the contractor. Bitumen storage and mixing areas must be protected against spills and all contaminated soil must be properly handled according to MOE or other acceptable standards. As a minimum, these areas must be contained, such that any spills can be immediately contained and cleaned up. Prior to initiating the work, the contractor will meet with the provincial Bapedalda to determine the proper siting of the mixing areas and the handling and management of such spills. Any petroleum products used in the preparation of the bitumen mixture must also be carefully managed to avoid spills and contamination of the local water table only 3-6 meters below the road surface.	Contractor	Contractor EHSM and Consultant with assistance from Bapedalda if required.	Construction Phase
Contamination from waste water (other than sewage)		All justifiable measures will be taken to prevent the wastewater produced during construction from entering directly into rivers and irrigation systems	Contractor	Contractor EHSM and Consultant	Construction Phase
Contamination from fuel and lubricants		Vehicle maintenance and refueling should be confined to areas in construction camps designed to contain spilled lubricants and fuels. Waste petroleum products must be collected, stored and taken to approved disposal sites, according to MOE requirements.	Contractor	Contractor EHSM and Consultant	Construction Phase

Table 39Continued

Activity	Potential Impact	Mitigation measures	Persons to Implement	Persons to Monitor	Timing
Construction Camp and Sanitation and Waste Disposal		Sufficient measures will be taken in the construction camps, i.e., provision of garbage bins and sanitation facilities. All toilet facilities should be at least 300m from water sources or existing residences. Prior to initiating work, the contractor will present a simple sewage management plan to the SDEA and Dinas for approval. • Drinking water will meet national potable water standards. • Solid waste and garbage will be collected in bins and disposed of daily, according to a brief and basic waste management plan prepared by the contractor and approved by the SDEA and Dinas, prior to the commencement of civil works. • To make sure that the natural water movement (in terms of flow and volume) is maintained.	Contractor	Contractor EHSM and Consultant	Construction Phase
	Protected areas in TSCC	It must be ensure that there will be no construction camp within 500m of the protected area section of the road. • Care must be taken to strictly follow daily collection of solid waste from the protected area section of the road in TSCC.			
Asphalt and mixing plant	Protected areas in TSCC	During civil works of the protected areas in TSCC, it must be ensured that all asphalt and mixing plants are outside the protected area. Mixing of bitumen and aggregates must be done outside the protected area and transported to these sections for simple overlay to avoid all possible impacts.	Contractor	Contractor EHSM and Consultant	Construction Phase
Recycle of construction material		Contractors will be encouraged to recycle reclaimed asphalt pavement as in cold mixes or aggregate in granular or stabilized surface material for village access road maintenance and to use recyclable materials as much as possible, such as fly-ash.	Contractor and Village Leader	PMT, DFT, and Consultant	Construction Phase
Soil					
Soil erosion		On stapes and other potentially erodible places along the roadside, appropriate vegetation that retards erosion should be planted. • On sections with high filling and deep cutting, the slopes should be protected retaining wall and planted with appropriate vegetation.	Contractor	PMT, DFT, and Consultant	Construction Phase

Table 39 Continued

Activity	Potential Impact	Mitigation measures	Persons to Implement	Persons to Monitor	Timing
Loss of topsoil		The topsoil (15cm or so) should be kept and refilled after excavation is over to minimize the impact on productive lands. • It may be necessary to construct new access roads to aggregate sites, and place them through agricultural lands. These temporary roads will be made along existing farm tracks so as to avoid losses to agricultural lands. Contractors will be required to present proposed construction road alignments and hauling schedule for approval before construction is to commence.	Contractor	PMT, DFT, and Consultant	Construction Phase
Compaction of soil		Construction vehicles should operate within the corridor of impact, i.e., approximately 9 m to either side of the carriageway centerline, to avoid damaging soil and vegetation. It will be most important to avoid soil compaction around trees. Generally the rule will be to avoid driving heavy equipment or trucks anywhere into the 'dripline' of a tree (defined as imaginary line around a tree where rainwater falls freely to ground unimpeded by the tree's foliage).	Contractor	PMT, DFT, and Consultant	Construction Phase
FLORA					
Loss of trees		A tree-cutting and replanting scheme will be prepared within the first four months of the start of civil works.	Contractor	PMT, DFT, and Consultant	Construction Phase
Fauna					
Extinction of birds, animals etc.		Construction workers should be advised to protect natural resources and wild animals. Hunting is strictly prohibited, especially in the protected areas. • Stream crossings that are dry during the work period should be kept unobstructed at all times and the channels should not be altered. • Many of the streams for which culverts will be sized, are tidally influenced and therefore adequate measures keep such flows unimpeded must be considered in calculating the culvert sizes.	Contractor	PMT, DFT, and Consultant	Construction Phase

Table 39Continued

Activity	Potential Impact	Mitigation measures	Persons to Implement	Persons to Monitor	Timing
Social Environment					
Loss of access	Social grievances andgrievances and disturbances	Temporary bypasses should be constructed and maintained (including dust control) during the construction period (including dust control) during the construction period particularly at bridge crossings. • A grievance redress committee must be formed in association with Kepala Desa before starting the civil work and advance notice must be given to the community about the construction schedule.	Contractor	PMT, DFT, and Consultant	Construction Phase
Traffic jams and congestion	Social havoc	If there is traffic jams during construction, measures should be taken to relieve the congestion through better coordination between the contractor, the Provincial Transportation Department and the police.	Contractor	PMT, DFT,	Construction Phase
Road safety; collisions between vehicles, people and livestock	Traffic injuries and fatalities	• Control speed of construction vehicles through road safety education and fines. • Allow for adequate traffic flow around construction areas. • Provide adequate signage, barriers and flag persons for traffic control • Communicate to the public through community consultation and newspaper announcements regarding the scope and time frame of projects, as well as certain construction activities causing disruptions or access restrictions.	Contractor	PMT, DFT, and Consultant	Construction Phase
Deterioration of health of workers due to poor camp conditions	Health impact	• Make certain that there is good drainage at all construction areas, to avoid creation of stagnant water bodies, including water in old tires especially in urban / industrial areas. • Provide adequate sanitation and waste disposal at construction camps. • Provide adequate health care for workers and locate camps away from sensitive areas.	Contractor	Contractor EHSM, DFT, and Consultant	Construction Phase
Littering with waste construction materials		All construction materials should be reused, recycled and properly disposed of. This will become particularly important at the many small bridge replacement sites, where old reinforced concrete will need to be properly disposed of. All worn out parts, equipment and empty containers must be removed from the site to a proper storage location designated by Dinas.	Contractor	Contractor EHSM, PMT, DFT, and Consultant	Construction Phase

Table 39 Continued

ENVIRONMENTAL MONITORING AND MITIGATION MEASURES DURING DESIGN, CONSTRUCTION AND OPERATION					
Activity	**Potential Impact**	**Mitigation measures**	**Persons to Implement**	**Persons to Monitor**	**Timing**
Awareness on HIV/AIDS and STD	Spread to the community along the corridors	• All construction workers will be adequately trained in basic sanitation and health care issues (e.g., how to avoid transmission of sexually transmitted diseases such as HIV/AIDS). • Group consultation will be done to create awareness among the community about these diseases.	Contractor	Contractor EHSM, PMT, DFT, and Consultant	Construction Phase
Littering/polluting with solid waste and smoking	Protected areas in TSCC	• Awareness campaign for road users education on the importance of the protected areas to preserve the protected sites is considered. • Improved road sign and awareness display board (nonsmoking, no-horn, no-dumping signs) including existing laws for violation is recommended in the protected areas.	Contractor	Contractor EHSM, PMT, DFT, and Consultant	Construction Phase
Protected area encroachment Protected areas in TSCC	Protected areas in TSCC	• The contractors will be encouraged to employ local labor during construction. • Provision of improved roadside fence is considered in the protected areas.	Contractor	Contractor EHSM, PMT, DFT, and Consultant	Construction Phase
Operational Phase/Natural Environment					
Dust Nuisance	Potentially moderate impact	• Maintain and clean roads properly. • Replace roadside tree plantations lost to construction and encourage new afforestation projects	Local community under contract from PMT	PMT and DFT	Operation Phase
Air Pollution	Atmospheric pollution	• A consultant under an SDEA/Dinas contract with the cooperation from DGLC should check emissions from diesel trucks, buses and old vehicles regularly and force ill maintained vehicles to service their automobile.	Consultant	Dinas and DFT	Operation Phase
		• By increasing roadside plantations, localized air pollution will be reduced due to the blocking effect of foliage and through photosynthesis.	Local community under contract from PMT	PMT and DFT	Operation Phase
Noise		Based on monitoring results, at places with noise violation, mitigation measures such as earth berm, dense layered plantation to block the noise, or other measures like wooden noise barriers should be considered.	Local community under contract from PMT	PMT and DFT	Operation Phase

Table 39 Continued

ENVIRONMENTAL MONITORING AND MITIGATION MEASURES DURING DESIGN, CONSTRUCTION AND OPERATION					
Activity	**Potential Impact**	**Mitigation measures**	**Persons to Implement**	**Persons to Monitor**	**Timing**
Water Resources					
Contamination from spills due to traffic movement and accidents	Accidental spills of toxic material and loss of life	Contingency plans for cleanup of spills or oil, fuel, and toxic chemicals, based on a spill contingency plan will prepared by Consultant for government, within one week of the commencement of the Project.	Contractor	PMT and DFT	Operation Phase
Maintenance of Storm Water Drainage System		The drainage system will be periodically cleared so as to ensure adequate storm water flow. Local community groups under contract from PMT will be responsible for cleaning the drainage facilities especially clearing the clogging of drains, cutting of grasses, and clearing the shrubs, etc. Employing local people will be efficient and effective, as well as economic as these localized problems can be easily resolved at the early stages.	Contractor	PMT and DFT	Operation Phase
Ecological Resources					
Afforestation along the roads		Plantation and maintain designated areas by local community along the road, on token payment basis is recommended. A portion of the profits raised from the trees and plants (e.g., from the sale of timber) can be given to the community.	Local groups of women or landless people	PMT and DFT	Operation Phase

11.23 Frequency of Environmental Monitoring

Table 44 Frequeny of Enironmental Monitoring

Impact	Location	Means of Monitoring	Frequency of Monitoring
Construction Phase			
Sourcing of Spoil	All borrow sites. Refer to maps of borrow materials.	Inspection of borrow pits	Spot checks
Soil Erosion	Along the links in Project	Site inspection	Ongoing/monthly
Chemical Storage and Use	All construction camps	Site inspection	Ongoing/monthly
Construction Camp	Applied to entire project corridor. No camp inside the protected section of links 30 and 32.	Site inspection	Ongoing/monthly
Surface Water Quality	Throughout project corridor and at all associated work sites.	Measurement of DO, COD, BOD, SS, fecal coliforms, conductivity, turbidity, pH, oils and greases and temperature	Monthly or after pollution event
Dredging Spoil	Throughout project corridor at all construction sites	Analysis of benthic sediment for meals and organic content	Predredging
Dredge water runoff	Throughout project corridors, sites temporarily acquired and borrow areas.	Measurement of metals and SS	Monthly or after significant pollution event
Drinking Water Quality	Throughout project corridors.	Measurement of DO, pH, fecal coliforms, As and Fe	Monthly or after significant pollution event
Air Quality and Dust	Throughout project corridors, access roads, construction sites and borrow areas.	Measurement of dust and TSP	Monthly or after complaint
		Measurement of NOx, SO_2, Pb, CO and THC	Before construction and midway through construction
		Site inspection	Ongoing/monthly
		Inspection of aggregate, asphalt and cement facilities.	Spot-checks
Noise and Vibration	Throughout project corridors, construction sites and borrow areas.	Measurement of noise dBA	Monthly or after complaint
		Consultation with the Community	Ongoing
Forest Encroachment	Links 30 and 32, West Sumatra	Site inspection	Ongoing
Exploitation of Trees	Links in West Sumatra and South Kalimantan	Regulate strictly IPK (Land Clearing) Permit	Ongoing
Health and Safety	Construction camps of entire project	Site Inspection	Ongoing/monthly
Waste Disposal	Construction camps of entire project	Inspection of waste disposal sites and construction camps	Spotchecks
Community	Entire project corridor	Consultation with community groups	Before construction/Ongoing

Compensation Plan	Entire project corridor	Site inspection (temporary disturbances, trees, crops, construction camps etc.)	Ongoing
Socioeconomic	Entire project corridor	Poverty Reduction Monitoring Program	Twice during construction
Public Safety	Entire project corridor	Site inspection	Ongoing/monthly
Operational Phase			
Noise and Vibration	Only for links with AADT 10,000 or more	Measurement of noise dBA	Once every quarter or after a complaint for 5 years
Air Quality and Dust	Only for links with AADT 10,000 or more	Measurement of TSP, NOx, SO_2, Pb, CO, and THC	Once every quarter or after a complaint for 5 years
Water Quality	Throughout project corridors, worksites and construction camps.	Measurement of DO, SS, conductivity, turbidity, pH, oils and greases and temperature	Once every quarter or after a complaint for 5 years
Socioeconomic	Entire project corridor	Poverty Reduction Monitoring Program	Once
Tree plantation and nursing	ROW width of 50m plus any areas to be cleared	Site inspection	Once every 6 months for 2 years

11.24 Factory Injuries and First Aid Log Checklist

Table 45 Factory Injuries and First Aid Log Check List

Identify the person			Describe the case			
No.	**Worker's Name**	**Job Title**	**Date of injury** (mo./day)	**Department** (Where the event occurred)	**Injury Description**	**Description of First Aid Provided**

11.25 Environmental Management Plan for HAZARDOUS WASTE

Purpose

Hazardous wastes that are disposed of improperly can pollute the air, land, groundwater, and waterways; harming the environment and threatening community health. While garment factories do not create large quantities of hazardous waste, it is important that any amount of hazardous waste be managed properly to avoid contaminating the environment. The purpose of this section is to describe how factories may properly manage hazardous wastes.

Table 46 EMP - Hazardous Waste

Activity Item	**Monitoring and Correcting Action/ Implementation**	**Requirements**
	HAZARDOUS WASTE	• Factories must determine the types and amounts of hazardous wastes resulting from production and business activities. • Factories must treat, recycle, or dispose of all hazardous wastes they make by using a qualified hazardous waste contractor, whenever feasible. • Hazardous waste "manifests" or other, equivalent, shipping documents must be used with every hazardous waste shipment to an off-site location. Shipping documents used for hazardous wastes must contain, at a minimum, the following information: Factory name and address Name, address, and phone number of transporter and/or destination facility Description of each waste stream transported off-site for disposal • Shipping documents must be signed by factory personnel who have been trained on the hazardous waste shipping and documentation requirements. • Factory personnel must track waste shipments to make certain the shipments were received by the proper facility. Waste disposal records must be kept by the factory for at least 3 years (or longer, if required by local authorities). • Factories must take steps to reduce hazardous waste (e.g., by using non-hazardous materials such as citrus-based solvents and non-toxic cleaners). Factories must work to improve current procedures and technologies for hazardous waste reduction, treatment, recycling, and disposal. • All hazardous wastes (including medical waste and used oil) must be handled in a way that minimizes the possibility of exposing workers and contaminating the environment (air, land or water). Factories should use the checklists and guidelines in

		the Appendix, which are based on best management practices. • Electrical equipment that may contain polychlorinated biphenyls (PCBs), such as transformers, regulators, capacitors, etc., must be labeled and managed as PCB-contaminated equipment.
	Training, Rules & Record Keeping	• Workers who handle hazardous wastes should be trained to avoid personal injury, prevent spills and releases, and to make sure these wastes are disposed of safely. Note: Workers who must contain or clean up spills should also be trained on spill clean-up procedures including how to protect themselves from contacting the spilled wastes. Factories should keep written records of this training for at least 3 years (or more, if required by local authorities). • Factories must train personnel who sign hazardous waste shipping documents about container and labeling requirements for hazardous wastes to be shipped off-site, and how to properly complete the hazardous waste shipping documents. • Factories may make arrangements with qualified contractors to clean up hazardous waste spills. If this is the case, authorized workers should be trained to know what size spill they are allowed to clean up (e.g., 1 gallon or less if the waste is not extremely hazardous), and how to control larger spills so that they don't spread before the qualified contractor arrives.
	Hazard Assessment	Factories should audit hazardous waste recycling, treatment, or disposal facilities before sending hazardous wastes to them. This audit should determine if the facility: ■ has all the required permits; ■ manages wastes responsibly; ■ complies with its permit conditions, including keeping records on file; and ■ has the financial ability to pay for a spill clean-up or the closing down of its site.
	Hazard Controls	• All hazardous wastes should be placed in containers that are in good condition and are compatible with their contents (e.g., acid or caustic wastes should not be stored in metal drums, as they will corrode the metal). Containers should be covered except when workers are transferring hazardous waste into them. • Hazardous waste containers should be labeled with the words, "HAZARDOUS WASTE," the name of the waste (e.g., the chemical name), and the hazardous properties (such as flammable or caustic). • Hazardous wastes should be stored in assigned areas with secondary containment (a container or physical structure that surrounds the primary container and serves to hold any liquids that may leak from the primary container). Assigned hazardous

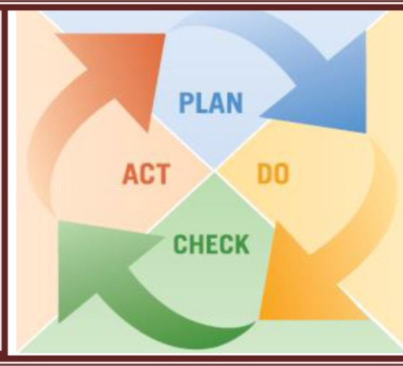
		waste storage areas should be: ○ located indoors, if possible (outdoor areas should be completely enclosed, such as a shed); ○ locked to prevent unauthorized individuals from entering; ○ labeled with warning signs, such as: "WARNING – HAZARDOUS WASTE"; and properly ventilated. • Trained and authorized factory workers should inspect assigned hazardous waste storage areas each week to make sure containers are in good condition and the requirements of this section are being met. • Spill control equipment should be kept in the assigned hazardous waste storage areas. • Emergency procedures should instruct workers about what to do if there is a spill or other event that releases hazardous waste from its container. • Emergency phone numbers (such as the clean-up contractor, local authorities who respond to fires or chemical spill emergencies) should be posted next to the telephone. • All hazardous wastes should be disposed of, at a qualified facility, by one of the following methods, whenever feasible: ■ Recycling ■ Treatment ■ Incineration ■ Burial at a hazardous waste landfi ll

Program Strategy for Hazardous Waste

Figure 48: Program Strategy for Hazardous Waste

Identify types and amounts of hazardous waste at factory. Prepare a procedure for managing hazardous wastes at factory (include instructions on handling spills). Train anyone who handles, labels, inspects, and ships hazardous wastes.

Make changes to the hazardous waste management as necessary.
Disqualify a hazardous waste contractor or disposal facility if they don't comply with requirements. Retrain or discipline workers, if they don't follow the procedure.



- Audit and identify qualifi ed hazardous waste disposal facilities. Store hazardous wastes in compatible containers with proper labels, in assigned areas.
- Prepare and keep copies of hazardous waste shipping documents, as wastes are shipped to disposal facilities.

- Inspect hazardous waste storage areas to make sure the procedure is being followed. Check that wastes sent to disposal
- facilities are received by them and managed as requested (i.e., recycled, treated, incinerated or disposed of).

Program Strategy for Working Safely in Extreme Temperatures

Figure 49: Program Strategy for Working Safely in Extreme Temperatures

Identify materials that may come into contact with storm water and may pollute it.
Identify workers whose activities may cause storm water pollution.
Create procedures for implementing "best management practices" throughout the factory to prevent storm water pollution.

Create or modify procedures to improve how best management practices are implemented, based on regular inspections. Re-train and/or discipline workers who fail to comply with procedures for best management practices and/or deliberately contaminate storm water.



Make sure workers whose activities may cause pollutants to be mixed into storm water are trained to use best management practices.
Inform all workers, contractors, vendors, visitors of the rule prohibiting disposal of pollutants down the storm drain.
Use best management practices to prevent storm water pollution (e.g., housekeeping, preventive maintenance, etc.).

Regularly inspect equipment, grounds, and areas outside factory to assess whether best management practices are being implemented effectively.

11.26 Environmental Management Plan for WATER POLLUTION

Purpose

Factory activities such as chemical storage, equipment handling, etc., can mix pollutants into rainstorm water that fl ows off the property and into bodies of water such as streams, rivers, ponds, oceans. This can harm the environment and create community health hazards. The purpose of this section is to describe the requirements for practices that can be used to minimize the amount of pollutants in storm water that fl ows off factory property.

Table 47 EMP - Water Pollution

Activity Item	**Monitoring and Correcting Action/ Implementation**	**Requirements**
	WATER POLLUTION	1.Factories must regularly inspect the exterior of buildings and surrounding parking areas, grounds, equipment, etc. to ensure that best management practices are used at the factory and are effective in controlling storm water pollution. Written records of these inspections must be kept by the factories. 2. Workers whose activities may cause pollutants to be mixed into storm water must be trained on the subject of storm water pollution; this training should emphasize the importance of using the best management practices.
	Training, Rules & Record Keeping	Factories should keep written records of the specific training provided to workers whose activities may cause pollutants to be mixed into storm water. Factories should have written records that include the inventory of potentially polluting materials (see "Hazard Assessment" section, below) and the periodic inspections.
	Hazard Assessment	• Factories should create a list of the materials (other than clean water) that have the potential to come into contact with storm water and pollute it. These may include raw materials, fuels, solvents, detergents, finished products, fertilizers, pesticides, herbicides, and waste materials. Materials should be included in this list if they are used, stored, or transported in areas where they could contact rain as it falls or storm water on the ground. • Factories should regularly inspect equipment, grounds and areas outside the factory to identify any conditions or practices that might pollute storm water and to assess if best management practices are effective in preventing pollution. Written records should be kept of these inspections.
	Hazard Controls	Storm water pollution is best prevented by using a standard set of practices, called "best management practices."

12.3 Estimated Cost for Environmental and Social Management Plan

Table 50 Estimated cost for Environmental and Social Management Plan

Sr. No.	Action Plan	Cost (Kyats)
1.	Environmental Monitor in Plan (soil, Water, Noise)	10,00000.00 K
2.	Waste Management Plan (with YCDC)	25,00000.00 K
3.	Emergency Response Plan: (purchasing equipment)	25,00000.00 K
4.	Fire Fighting Plan (Purchasing Fire Extinguisher)	15,00000.00 K
5.	House Keeping (Purchasing disposal Bin, Vaccum Cleaner, accessories)	28,00000.00 K
6.	Safety Training, Job Training (Fire fighting Drill)	5,00000.00 K
7.	Awareness of Education for SHE policy.	5,00000.00 K
8	CSR Plan	30,00000.00 K
9.	Health care Plan. (Primary Health Care)	60,00000.00 K
	Total Estimated Cost	**203,00000.00 k**

12.4 Stake holder participation and Involvement

Most of Garment factory requires working with the following government department during the construction phase and operation phase. The following department are involved with proponents and management group for government practice.

1. Directorate of Investment and company Administration from Ministry of National Planning & Economic Develop.
2. Ministry of Heavy industry (Di recto rate of Industrial supervision and Inspection)
3. Environmental Conservation Department from ministry of Environmental Conservation and forestry.
4. Factories and General labour laws Inspection Department from Ministry of labour.
5. Department of Human settlement and Housing Development from ministry of construction.
6. Pollution control cleaning Department from YCDC.
7. Department of Health from Ministry of Health.
8. Hlaing Tharyar Industrial Management Committee, Firefighting, Police station. Ministry of Trade, Custom department from ministry of finance, Public Health, Textile industry from Ministry of Heavy Industry.

When dealing with these stake holders. Most of the procedures are for reporting to them, Inspection in factory, documentation process in their department, Approval permit, import and export license applying, freight forwarding for custom clearance such as.

Factory's main concept is according to ISO 140001 and ISO 90001 (or) EMP

1. Conserve water and energy.
2. Use less-toxic chemicals.
3. Minimize waste.
4. Cost saving.
5. Improved worker skills.
6. Reduced risk of regulatory problems.
7. Decreased impact on the local environment and community.
8. Resulting score or grade from factory's evaluation exercise.
9. Collecting data and asking questions rivals the weakness in environmental management and implementation.
10. Environmental focus areas in this factory is energy, water, solid waste and hazardous materials (labour well fares and suitable salary), and checklist of environmental best management pratice for factory.
11. Environmental foot print of a typical garment factory can be divided between activities associated with
    a. manufacturing process and
    b. on-site dormitories (such as toilet, dining room, disposal area, storage area and fuel tank.
    c. Solid waste generation.
12. Environmental Parameter for Garment factory.

Environmental Focus Area	Manufacturing Operation per 1000 pieces	
	Average	Bench mark
1. Energy Use (kilo-watt hour (Kw-hr))	435	271
2. Water Use (gallons)	1773	1086
3. Solid waste Generation (pounds – (lb)	200	126
4. Hazardous Chemical Use	NA	NA

13. Garment manufacturing activities including cutting, sewing, ironing and packing are still significant and should be controlled and made efficient, but their impacts area are smaller and less chemical intensive.
14. Cost saving are abound-ant. The cost / benefit analysis for the P2 (Pollution Prevention) in three of the focus areas, energy, water and solid waste are relatively easy to determine pay back period for nearly, all of them is between 2 to 3 years shorter if CMP or CUC rates, diesel prices, or tipping fees continue to increase, logistic freight charges).
15. Attached environmental performance checklists are as follow.

12.5 Garment manufacturing environmental performance checklist

POLICIES AND PROCEDURES

Addresses GRI Governance Structure and Management Systems requirements.

1. Does the organization track environmental performance metrics? ☑ Yes ☐ No
2. Does the organization have an environmental policy statement endorsed by executive management? ☑ Yes ☐ No
3. Has the organization implemented an environmental management system? ☑ Yes ☐ No
   3.1 If yes, is it ISo 14001 certified? ☑ Yes ☐ No

ENERGY USE

GRI Environmental Performance Indicators EN3, EN4

4. Does the organization track a normalized energy-use metric? ☐ Yes ☑ No
   If yes, attach documentation and record normalized
   average energy use per month here : ____________
5. Has the organization performed a formal energy audit and identified energy efficiency opportunities? ☐ Yes ☑ No
6. Has the organization conducted a formal study to determine appropriate lighting levels for each process or task? ☑ Yes ☐ No
7. Has the organization optimized current lighting systems using any of the following? (Check all that apply).
   - ☑ Adjust light proximity?
   - ☐ Task lighting
   - ☐ Automatic light controls
   - ☑ Cleaning/maintenance
   - ☐ Group replacement
   - ☐ Other
8. Has the organization upgraded lighting systems with any of the following energy-efficient technologies? (Check all that apply)
   - ☑ Electronic ballasts
   - ☐ Hybrid ballasts
   - ☐ T8 or T5 lamps
   - ☐ Compact fluorescent
   - ☑ LED exit signs
   - ☑ Other
9. Does the organization have a documented environmentally preferable purchasing policy that includes preference to energy-efficient produces? If yes, describe below:
10. Has the organization installed an energy-efficient heating or cooling system? If yes, describe below:
11. Does the organization operate a boiler for steam generation or other use? ☑ Yes ☐ No
    If yes, does the organization have a written maintenance schedule to inspect the system for steam leaks? ☐ Yes ☑ No
    If yes, describe any upgrades or programs the organization has implemented to improve the energy-efficiency of the boiler.

ENERGY USE

GRI Environmental Performance Indicators EN5

12. Does the organization track a normalized water-use metric? ☐ Yes ☑ No
    If yes, attach documentation and record normalized average water use per month here: ___________________

13. Does the organization have a <u>documented</u> leak detection program? ☐ Yes ☑ No

14. Does the organization have an on-site laundry operation? ☑ Yes ☐ No
    If yes, does the organization track the water used per pound of material washed? If available, specify here: _______________________
    If yes, indicate whether the organization has implemented any of the following water conservation technologies (check all that apply).
    - ☑ Batch washer system
    - ☐ Water recovery tanks
    - ☐ Ozone washing
    - ☐ Other: ___________

WATER USE (continued)

GRI Environmental Performance Indicators EN5

15. Does the organization operate a boiler for steam generation or other use? ☐ Yes ☑ No
    If yes, is a boiler condensate recycling system installed? ☐ Yes ☐ No

16. Do bathroom facilities for employees used during normal operating hours have low-flow features? ☐ Yes ☑ No
    If yes, indicate whether the organization has implemented any of the following water conservation technologies <u>for toilets</u> (check all that apply).
    - ☐ Low-flush toilet (1.6 gallons per flush)
    - ☐ Early closure value
    - ☐ Weighted flapper
    - ☐ Dual flush device
    - ☐ Displacement bag
    - ☐ Toilet dam

17. Does the organization provide bathroom and shower facilities for use by residents in on-site dormitories? ☑ Yes ☐ No
    If yes, indicate whether the organization has implemented any of the following water conservation technologies <u>for toilets</u> (check all that apply).
    - ☑ Low-flush toilet (1.6 gallons per flush)
    - ☐ Early closure value
    - ☐ Weighted flapper
    - ☐ Dual flush device
    - ☐ Displacement bag
    - ☑ Toilet dam

    If yes, do the installed showerheads use less than 2.2 gallons of water per minute? ☑ Yes ☐ No

SOLID WASTE GENERATION

GRI Environmental Performance Indicators EN11

18. Does the organization track a normalized solid waste metric? ☐ Yes ☑ No

    If yes, attach documentation and record normalized average solid waste generation per month here:

    ____

19. Does the organization recycle scrap garment materials? ☐ Yes ☑ No

20. Indicate which commodities the organization recycle (check all that apply).
    - ☐ Aluminum cans
    - ☐ Batteries
    - ☐ Cardboard
    - ☐ Glass
    - ☐ Scrap metals
    - ☑ Other : _________
    - ☐ Other : _________

HAZARDOUS CHEMICAL USE

GRI Environmental Performance Indicators EN1, EN11, EN13

21. Does the organization maintain an electronic inventory of all hazardous chemicals used on site? ☐ Yes ☑ No

22. Does the organization track a normalized hazardous chemical use metric? ☐ Yes ☑ No

    If yes, attach documentation and record normalized average hazardous chemical use per month here:

    ____

23. Does the organization have a spot removal operation ☐ Yes ☑ No

    If yes, refer to the spot remover / solvent MSDS to specify the health and safety characteristics of the product (check all that apply).
    - ☐ Carcinogenic
    - ☐ Teratogenic/Mutagenic
    - ☐ Neurotoxic

ENVIRONMENTAL COMPLIANCE

GRI Environmental Performance Indicators EN16

24. Has the organization previously had incidents of, or fines associated with noncompliance of applicable environmental laws and regulations? If yes, describe below: ☐ Yes ☑ No

25. Specify the local environmental regulatory agencies below:

Chapter-13 Recommendation

A. Main elements of environmental management plan shall include the following and factory management group will understand and implement EMP with these directives.

a) Impact identification and evaluation, mitigation
   - Impact significance
   - Impact protection
   - Impact evolution criteria

b) Monitoring criteria

c) Management criteria

d) Monitoring Responsibility

e) Management Responsibility

f) Monitoring Parameter and Programme

g) Management Cost

h) Applicable laws, rules and Directive relating to environmental components

i) Stakeholders involvement and consultation.

B. Management system in factory is implemented with the following system

- Administrative management
- Engineering management
- Waste management and work plan
- Health management and safety management with HSE policy

C. The guidance of the EMP provides on ensuring that mitigation and protection measure are implemented during project execution. It is envisaged that project staffs from factory shall include a full time staffs from each section to enhance implementation of the environmental mitigation and protection measure through EMP and it is envisaged also that all awareness program (Health, Safety, Environmental, Security) to workers and EMP shall be conducted in comply with the respective government ministries' law, rule and regulation, consultation with community of regional government.

Chapter-14 Conclusion

Environmental Management Plan is the same as for environmental protection. Social economic benefits from this project is to create employments' opportunities, boosting up Garment Industry, and to increase National GDP. All of mitigation plan, monitoring plan, management plan in this report comply with environmental law from MoCAF and the developer group must obey the rule and regulation from MoCAF, other direction and instruction from concerned government department relating to this project during project development period. Major thing to do for environment protection is to develop public drain around industrial area and YCDC's solid waste dump site at the easier collecting site of Garment Industry.

Proposed safety provision for employee, fire protection system, storage and handling of hazard material must be arranged and trained to concerned employee at the frequency of time, emergency plan also.

Implementation of cooperate social responsibilities will be considered during the operation period and budget, is from operation cost. PPE is also provided from operation budget.

The studied areas area is very vast and blessed with good natural resources. There is a great potential for modern, higher and other facilities when proper plans and the people oriented management company are in place.

An Establishment of ***Garment Factory*** Project should be resulted definitely in a greater development of the area or province as well as development of the economic and social standards of the local people.

Improvement of water use efficiency is currently very important for the Country. Consultation should be made treatment as standard drinking water quality or to use available irrigation water quality.

Laboratory testing and Analytical control of water quality, Soil quality and Sediment for the area is based on WHO standards.

And this is our pleasure to introduce you hence we are assisting of IEE Project for Development of ZKG Asia Limited Garment Factory which is being managed by Chater Limited Trading and Investment holding Company from Hong Kong in studied area. Therefore, we are very much interested and willing to assist and provide services to any future projects and operations in Myanmar when the time comes.


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Form (2)

Republic of the Union of Myanmar
Sr.No. 127-d
Date 23-8-2014
Myanmar Investment Commission

THE REPUBLIC OF THE UNION OF MYANMAR

The Myanmar Investment Commission

PERMIT

Permit No. 974/2014 Date 23rd August 2014

This Permit is issued by the Myanmar Investment Commission according to the section 13, sub-section (b) of the Republic of the Union of Myanmar Foreign Investment Law-

(a) Name of Investor/Promoter MR. LEE KWOK SUN, THOMAS

(b) Citizenship CHINESE

(c) Address RM-3708, ASIA TRADE CENTRE, 79 LEI MUK ROAD, KWAI CHUNG, NT, HONG KONG

(d) Name and Address of principal organization –

(e) Place of incorporation –

(f) Type of investment business MANUFACTURING OF GARMENTS ON CMP BASIS

(g) Place(s) at which investment is permitted PLOT NO. 50, SHWE MYODAW ZAYDI ROAD, YANGON INDUSTRY ZONE ,MINGALARDON GARDEN CITY, YANGON REGION

(h) Amount of foreign capital US$ 1.8264 MILLION

(I) Period for foreign capital brought in WITHIN THREE YEARS FROM THE DATE OF ISSUANCE OF MIC PERMIT

(j) Total amount of capital (Kyat) EQUIVALENT IN KYAT OF US$ 1.8264 MILLION

(k) Construction period 6 MONTHS

(l) Validity of investment permit 30 YEARS

(m) Form of investment WHOLLY FOREIGN OWNED INVESTMENT

(n) Name of company incorporated in Myanmar ZKG ASIA LTD.

Chairman

The Myanmar Investment Commission




PEB
TAKEUCHI
TAKEUCHI


















PEB











ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
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ရက်စွဲ၊ ၂၀၁၄ ခုနှစ် မေလ ၈ ရက်

အကြောင်းအရာ။ ရခိုင်ရှုန်းပြည့် နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှုဖြင့် ZKG Asia Limited တည်ထောင်၍ CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း ဆောင်ရွက်ခွင့်ပြုပါရန် **တင်ပြလာခြင်း ကိစ္စ**

ရခိုင်ရှုန်းပြည့် နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှုဖြင့် ZKG Asia Limited မှ CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်းဆောင်ရွက်ခွင့်ပြုပါရန် အဆိုပြုတင်ပြလာခြင်းကိစ္စအား (၂-၅-၂၀၁၄) နေ့တွင်ကျင်းပပြုလုပ်သည့် မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင် အဆိုပြုချက်စိစစ်ရေးအဖွဲ့၏ (၁၈/၂၀၁၄) ကြိမ်မြောက် အစည်းအဝေးသို့ တင်ပြဆွေးနွေးခဲ့ရာ အမှာစာကို လက်ခံပါကြောင်း ပြန်ကြားအပ်ပါသည်။

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ညွှန်ကြားရေးမှူးချုပ်(ကိုယ်စား)
(စန်းစန်းမြင့်၊ ညွှန်ကြားရေးမှူး)

ZKG Asia Limited
အမှတ် (၅၀)၊ ရွှေမြို့တော်စေတီလမ်း၊
ရန်ကုန်စက်မှုဇုန်၊ မင်္ဂလာဒုံ ဥယျာဉ်မြို့တော်၊
ရန်ကုန်တိုင်းဒေသကြီး
မိတ္တူ

ရုံးလက်ခံ/ မျှောစာတွဲ

THE REPUBLIC OF THE UNION OF MYANMAR
MYANMAR INVESTMENT COMMISSION
PROPOSAL ASSESSMENT TEAM
BUILDING (32), NAY PYI TAW

☏ -067-406334 , 406075
🖷-95-67-406333

Our ref: DICA-1/FI-1017/2014(၄၅၈)
Date : 8th May 2014

ZKG Asia Limited
Plot No.50, Shwe Myodaw Zaydi Lan,
Yangon Industry Zone (Mingalardon
Garden Park), Yangon Region

Subject: **Application for the Proposal**

Reference to your letter dated 25 April 2014, regarding the captioned subject, it is hereby informed that Proposal Assessment Team, at its meeting (18/2014) held on 2-5-2014, had resolved to accept the proposal of ZKG Asia Limited.

Yours sincerely,

8.5.2014

For Director General
(San San Myint, Director)

Reply-PAT (Eng)

Inv-1

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
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စာအမှတ်၊ရက- ၆(ခ)/န-၁၀၁၇/ ၂၀၁၄ (၄၇၁၀)
ရက်စွဲ၊ ၂၀၁၄ ခုနှစ် မေလ ၈ ရက်

အကြောင်းအရာ။ **ရခိုင်နှုန်းပြည့် နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှုဖြင့် ZKG Asia Limited တည်ထောင်၍ CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း ဆောင်ရွက် ခွင့် ပြုပါရန် တင်ပြလာခြင်း ကိစ္စ**

ရည် ညွှန်းချက်။ ZKG Asia Limited ၏ (၂၅-၄-၂၀၁၄) ရက်စွဲပါစာ

၁။ အထက်အကြောင်းအရာပါ ကိစ္စနှင့်စပ်လျဉ်း၍ (၅-၅-၂၀၁၄) ရက်နေ့တွင် ကျင်းပပြုလုပ်သည့် မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်၊ အဆိုပြုချက်စိစစ်ရေးအဖွဲ့ ၏ ၁၈/ ၂၀၁၄ ကြိမ်မြောက် အစည်းအဝေးသို့ တင်ပြခဲ့ပါသည်။

၂။ ယင်းအစည်းအဝေးမှ အောက်ပါအတိုင်းဆုံးဖြတ်ခဲ့ပါသည်-

(က) မြေငှားစာချုပ် ချုပ်ဆိုပါက တံဆိပ်ခေါင်းခွန် ပေးဆောင် ရန်၊

(ခ) ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှု အစီအစဉ် (EMP) အစီရင်ခံစာ ကိုရေးဆွဲ ဆောင်ရွက်ရန်၊

(ဂ) အဆိုပြုချက်နှင့် မြေငှားစာချုပ်တွင် မြေဧရိယာ၊ မြေငှား သက်တမ်းမှန်ကန်စွာ တစ်မျိုးတည်း ဖော်ပြပေးရန်၊

(ဃ) CSR ကိုတွက်ချက် ဖော်ပြပေးရန်၊

(င) Raw Material ကို အသေးစိတ် ဖော်ပြရန်၊

(စ) လျှပ်စစ်ဓါတ်အားသုံးစွဲမှုကို တစ်နှစ်စာသုံးစွဲမှုဖြင့် ဖော်ပြ ရန်၊

(ဆ) စက်ပစ္စည်းများတွင် ပြည်တွင်းဝယ်၊ ပြည်ပဝယ် ခွဲခြားဖော် ပြရန်၊

၃။ သို့ဖြစ်ပါ၍ အထက်ပါ ဆုံးဖြတ်ချက်နှင့်အညီ ဆောင်ရွက်ပြီး ပြန်လည်တင်ပြပေးပါရန် အကြောင်းကြားအပ်ပါသည်။

၈ | ၅ | ၂၀၁၄

ညွှန်ကြားရေးမှူးချုပ်(ကိုယ်စား)
(စန်းစန်းမြင့်၊ ညွှန်ကြားရေးမှူး)

ZKG Asia Limited
အမှတ် (၅၀)၊ ရွှေမြို့တော်စေတီလမ်း၊
ရန်ကုန်စက်မှုဇုန်၊ မင်္ဂလာဒုံ ဥယျာဉ်မြို့တော်၊
ရန်ကုန်တိုင်းဒေသကြီး

မိတ္တူကို
ရုံးလက်ခံ/မျှောစာတွဲ

LEASE AGREEMENT

FOR LAND & BUILDING (DRAFT)

BETWEEN

Mr. Soe Soe @ Mr. Soe Soe Than

Arr Man Thit Automobile Co., Ltd.

AND

ZKG (MYM) LIMITED

LEASE AGREMENT   FOR LAND AND BUILDING

This LEASE AGREEMENT FOR LAND AND BUILDING made, entered into and delivered at Yangon on this …………. Day of ……………Two Thousand and Thirteen.

BY AND BETWEEN

Mr. Soe Soe @ Mr. Soe Soe Than, Arr Man Thit Automobile Co., Ltd. No. 27, 4th Lane Kan Road, 10th Ward, Hlaing Township, Yangon Region. (hereinafter called and referred to as " the LESSOR " which expression shall, except where the context requires another and different meaning wherefrom, include its successors, legal representatives and permitted assigns) of the ONE PART,

AND

ZKG ASIALIMITED

Incorporated under the Myanmar Companies Act as a 100% (one hundred percent) owned foreign company situated at Plot No.271, 25th Quarter, Corner of Panbe Gaung Maung Khet Street and U Tayoke Street, Shwe Lin Pan Industrial Zone, Hlaing Tharyar Township, Yangon (hereinafter referred to as " the LESSEE" which expression herein used shall, unless repugnant to the context or the meaning thereof, be deemed to include, its successors, legal representatives, and permitted assigns represented for the purpose of this Contract by MRS, CHOW PUI FONG, DORA, Korean PP No-02504887, of the OTHER PART;

WITNESSETH AS FOLLOWS:

LOCATION: No. (50), Shwe Myodaw Zaydi Lan, Yangon. Industry Zone (Mingalardon Garden Park), Yangon, Myanmar, described in the map.

WHEREAS the LESSEE is desirous of entering into this Lease Agreement for utilizing the lease land, to operate as Garment Factory in the name of ZKG (MYM) LIMITED at Plot No.271, 25th Quarter, Corner of Panbe Gaung Khet Street and U Tayoke Street, Shwe Lin Pan Industrial Zone, Hlaing Tharyar Township , Yangon.

WHEREAS the LESSOR is desirous of leasing the land plot as afore-mentioned to the LESSEE to enhance industrial development, whereby promoting the 100% foreign investment in Myanmar.

WHEREAS the LESSOR represents and warrants that it has the legal and beneficial right on the said land:

WHEREAS both the LESSOR and the LESSEE hereto are legally authorized to enter into this Lease Agreement.

NOW, THEREFORE, THE PARTIES HERETO AGREE AS FOLLOWS;

ARTICLE 1   :   LEASE PERIOD

1-01   In consideration of the rent hereinafter reserved and the covenants made by the LESSEE hereinafter contained, the LESSOR doth hereby lease unto the LESSEE all that piece of land at No. (50), Shwe Myodaw Zaydi Lan, Yangon. Industry Zone (Mingalardon Garden Park), Yangon, Myanmar

(which shall form an integral part of this Lease Agreement) for a term of 2 (Two) Years extendable from the date of signing this Lease Agreement,

1-02 On expiry of 2 (two) Years, , this lease may be renewed for further periods with the consent of the LESSOR and subject to the approval of the Myanmar Investment Commission (hereinafter called MIC).

ARTICLE 2: RENT AND PAYMENT TERMS

2-01 The rent for the land and building shall Kyats 31,000,000.00 (Say Kyats Three Hundred and Ten Lakhs Only) per month for 12 years for the entire compound,

2-02 Payment of annual rent shall be made in advance in the first month of the year every financial year. The first payment of rent shall be made just in the month of signing this Lease Agreement to the last day of the financial year.

2-03 The rent shall be calculated from the date of signing this Lease Agreement.

ARTICLE 3: PLACE OF BUSINESS AND FACTORY

3-01 The Place of business extension and branch factory of the LESSEE shall be at Plot No. (50), Shwe Myodaw Zaydi Lan, Yangon. Industry Zone (Mingalardon Garden Park), Yangon, Myanmar

ARTICLE 4: EFFECTIVE DATE OF THE LEASE

4-01 The effective date of this Lease Agreement shall be the date on which this Lease Agreement is signed by both the LESSOR and the LESSEE.

4-02 The period of the lease shall be initially 2 years, extendable by two-year period by mutual agreement. The lease period shall be counted from the date of signing of this Lease Agreement.

ARTICLE 5: LESSEE'S OBLIGATIONS

5-01 The LESSEE hereby covenants with the LESSOR for the following:

5-01(1) To pay the said rent on the days and in the manner hereinbefore appointed for payment thereof and to pay for all charges to be collected by respective authorities with respect to any services provided,

5-01(2) Not to sub-lease, assign or transfer the whole or any part of the leasehold interest hereby created, concerning the leased premises or any part thereof, without the consent of the LESSOR and the approval of the Myanmar Investment Commission (MIC),

5-01(3) To utilize the leased land for the purpose of operating as Garment Factory in the name of ZKG ASIA Limited and thereafter to install plant and equipment for processing and marketing of garment products locally or overseas,

9-01 (a) Substantial and continuous losses sustained by the business operations,

9-01 (b) Breach of any conditions of this Lease Agreement by either party, without rectification within 90 (ninety) days from written notification of the other party, and

9-01 (c) Force majeure event persisting for more than six months from the occurrence thereof,

9-02 This Lease Agreement, may be terminated, before the expiry of the term of the Lease by mutual consent in writing, after a service of 90 (ninety) days' notice of the intention of such termination of the one party to the other

9-03 This Lease Agreement may also be terminated by the LESSEE, in the event that a natural disaster or any destruction or loss caused by force majeure occurs. Notice of intention to terminate shall be given in writing to the LESSOR, 90days' in advance. The LESSEE reserves its right under this Lease Agreement to reconstruct the damaged property at its own cost and continue its operations.

9-04 Termination shall be effective, only after the approval of the Myanmar Investment Commission.

ARTICLE 10: RETRANSFER OF LEASED PROPERTY

10-01 During the period of 30 (Thirty) years extendable to five-year periods of the leasehold of the leased land, the LESSEE shall undertake normal maintenance and due care of the leased property. The LESSEE shall with the prior written consent of LESSOR construct additional buildings or extension of buildings at the factory premises after initial foreign investment

10-02 At the expiry of the Lease period, the “LESSEE" shall transfer the leased land and immovable properties on it to the “LESSOR" within 3 (three) months in good condition, ground damages having been refilled and repaired,

10-03 The LESSEE shall have the right to take re-possession of all movable properties which shall be removed at its own costs and or disposed of within 3 (three) months, not affecting the LESSOR right to claim for the rent up to the date of complete evacuation and damages caused to the leased land by the LESSEE.

10-04 If" the LESSEE" wishes to manage and operate the factory after termination of this Contract a new contract of management under new terms and conditions may be negotiated and concluded within six months before the expiry of this Contract.

10-05 Such amendments are subject to the approval of the Myanmar Investment Commission.

ARTICLE 11: ARBITRATION

11-01 In the event of any dispute arising between the parties to this Lease Agreement, which cannot be settled amicably, such dispute shall be settled in the Union of Myanmar by way of Arbitration, though two Arbitrators, each one of whom shall be appointed by the LESSOR and the LESSEE respectively. Should the Arbitrators fail to reach an agreement, the dispute shall be referred to an Umpire nominated by the Arbitrators. The decision of the Arbitrators or the Umpire shall be binding upon both

5-01(4) To ensure that all activities and operations on the premises or any part thereof including the said Factory under lease and other related facilities, are in conformity with the laws, regulations and directives of the Union of Myanmar, and

5-01(5) The LESSEE shall be responsible for protection as well as preservation of the environment in and around the work-site, to be able to control pollution of air, water and land, not to cause any environmental degradation, taking necessary measures in order to make environmental protection and other treatment procedures to keep the worksite environmentally friendly

5-01(6) To surrender the lease within 3 (three) months of prior notice served to the LESSOR and take away or dispose of all moveable properties not affecting the LESSOR right to claim for the rent up to the date of complete evacuation and damages caused to the land.

ARTICLE 6: LESSOR'S OBLIGATIONS

6-01 The LESSEE paying the rent hereinbefore mentioned and performing and observing the covenants hereinbefore contained, the LESSOR hereby covenants with the LESSEE for the following:

6-01(1) The LESSOR shall pay all land revenues and industrial zone management fees imposed on the leased land.

6-01(2) The LESSOR is to assist in getting sufficient electricity power supply, required IDD telephones, fax lines and telex lines, and

6-01(3) The LESSOR is responsible to assist in getting the requisite licenses and permits from relevant authorities in Myanmar.

6-02 The LESSEE may peacefully and quietly hold the leased premises during the term of the Lease Agreement, without any interruption or disturbance of whatsoever nature by the LESSOR or any person lawfully claiming to represent the LESSOR.

ARTICLE 7: GOVERNING LAW & JURISDICTION

7-01 This Lease Agreement shall be read, construed, interpreted and governed, in all respects, by the laws of the Union of Myanmar and the parties hereto hereby submit to the jurisdiction of the relevant count of Myanmar and all courts competent to hear appeals there from.

ARTICLE 8: WARRANTY AND REPRESENTATION

8-01 Each party represents and warrants to the other that it is a legal person duly authorized under the relevant laws and has the right, power, sound financial standing and authority to enter into this Lease Agreement.

ARTICLE 9: TERMINATION

9-01 This Lease Agreement may be terminated through the service of 90 (ninety) day's notice by either party hereto, upon occurrence of any of the following events, subject to the approval of the Myanmar Investment Commission-

parties. 5The arbitration proceedings shall, in all respects, conform to the Myanmar Arbitration Act, 1944 (Myanmar Act 5, 1944) or any than existing statutory modifications thereof.

11-02 Arbitration fees shall be borne by the losing party.

11-03 The venue of arbitration shall be in Yangon, Myanmar.

ARTICLE12: FORCE MAJEURE

12-01 If either party is temporarily rendered unable wholly or partly by force majeure to perform its obligations or accept the performance of the other party under this Lease Agreement, the affected party shall given notice to the other party within 14 (fourteen) days after the occurrence of the cause relied upon, giving full particulars in writing of such force majeure. The duties of such party as affected by some force majeure shall, with the approval of the other party, be suspended during the continuance of the disability so caused, but for no longer period than reasonable: and such cause shall, as far as possible, be removed with all reasonable dispatch. Neither party shall be responsible for any delay caused by force majeure.

12-02 The term, "force majeure" as applied herein shall mean Acts of God, restraints of a Government, strikes, industrial disturbances, wars, blockades, insurrections, riots, epidemics, civil disturbances, explosions, fires, floods, each quakes, storms and other causes similar to the conditions as enumerated herein which are beyond the control of either party and which, by the exercise of due care and diligence, either party is unable to overcome.

ARTICLE 13: ASSIGNMENTS

13-01 The LESSEE has the right to assign, or transfer its interest in the ZKG (MYM) Limited to any Company or individual, local or foreign, with the consent of and on terms agreed by the LESSOR, subject to the existing laws of the Union of Myanmar and the approval of the Myanmar Investment Commission.

ARTICLE 14: NOTICE

14-01 Any notice or other communication required to be given or sent hereunder shall be in English Language and be left or sent by Prepaid registered post (airmail, if overseas) or telex or facsimile transmission or international courier to the party concerned at its address given underneath, or such other address as the party concerned shall have notified in concurrence with this clause to the other party.

LESSOR : Name: Mr. Soe Soe @ Mr. Soe Soe Than
Arr Man Thit Automobile Co., Ltd.
No. 27, 4th Lane Kan Road, 10th Ward
Hlaing Township, Yangon Region.
Tel : 095-

LESSEE : Name: MRS. CHOW PUI FONG, DORA
PP No- K-02504887
ZKG (MYM) Limited

Plot. No 271 , 25th Quarter, Corner of Panbe Gaung
Maung Khet Street and U Tayoke Street, Shwe Lin
Pan Industrial Zone , Hlaing Tharyar Township,
Yangon
Tel: 095-01-617081, 613842

IN WITNESS WHEREOF THE PARTIES hereto have set their respective hands and affixed their seals hereunder on the Day, the Month and the Year first above written.

LESSOR LESSEE

.

Mr. Soe Soe @ Mr. Soe Soe Than

MRS. CHOW PUI FONG DORA
PP. No-K-02504887
ZKG (MYM)Limited

WITNESSES
In the presence of:

(1)

Name………….
Designation…………

(2)

Name……………
Designation…………..

t